

STATE OF HAWAII
 DEPARTMENT OF LAND AND NATURAL RESOURCES
 ENGINEERING DIVISION

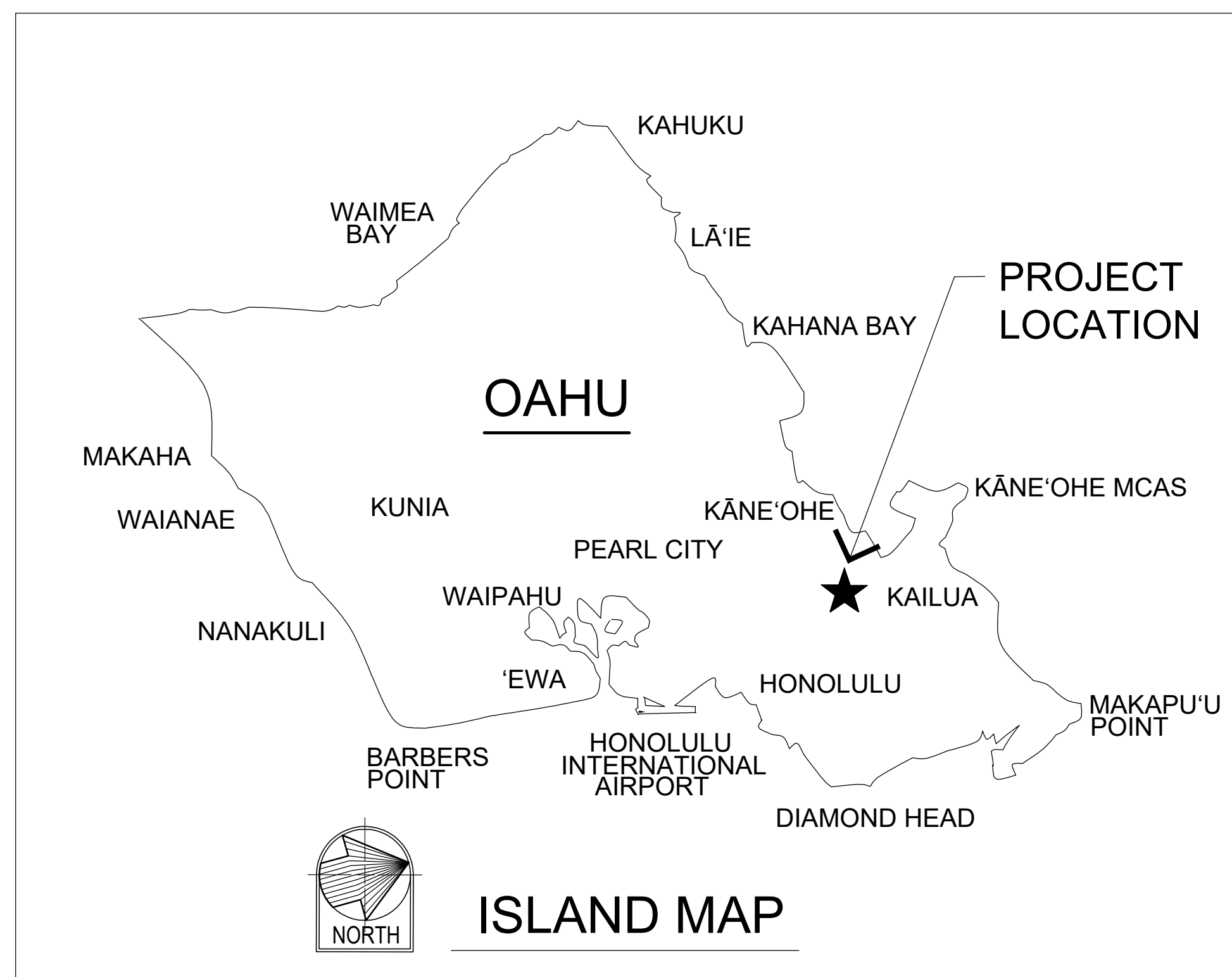
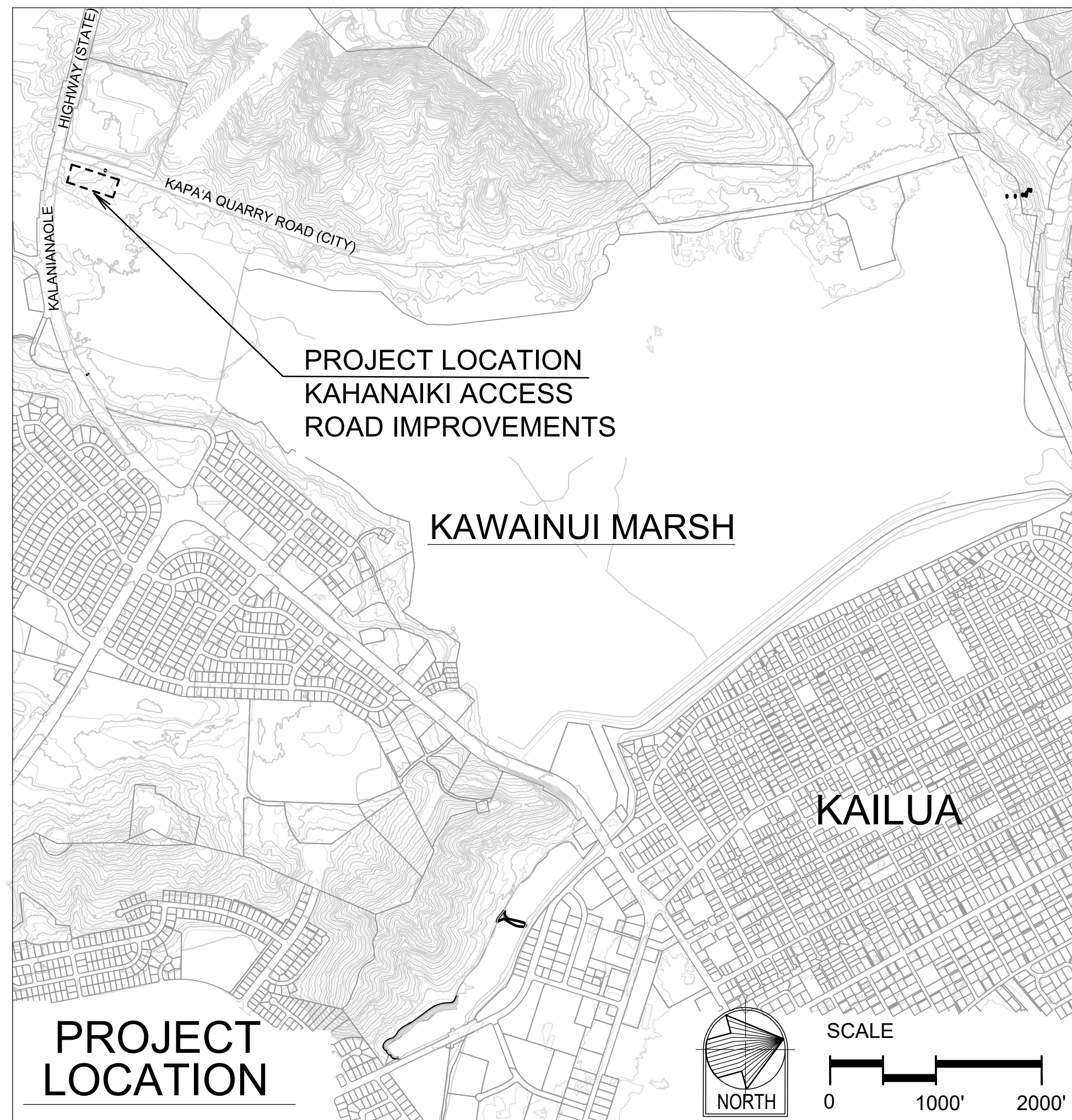
FOR
 DIVISION OF FORESTRY AND WILDLIFE

JOB NO. D00CO45C

KAHANAIKI ACCESS ROAD IMPROVEMENTS

KAILUA, OAHU, HAWAII

TMK: (1) 4-2-013:005



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APPROVED: _____ DATE: 05/12/2026

[Signature]

DAVID G. SMITH
 ADMINISTRATOR
 DIVISION OF FORESTRY AND WILDLIFE
 DEPARTMENT OF LAND AND NATURAL RESOURCES

APPROVED: _____ DATE: 05/08/2026

[Signature]

DINA U. LAU, P.E.
 ACTING CHIEF ENGINEER
 ENGINEERING DIVISION
 DEPARTMENT OF LAND AND NATURAL RESOURCES

APPROVED: _____ DATE: _____

DIRECTOR
 DEPARTMENT OF PLANNING AND PERMITTING
 CITY AND COUNTY OF HONOLULU
 (FOR GRADING ONLY)

DRAWING NO.
T-1

CONSTRUCTION NOTES

1. ALL APPLICABLE CONSTRUCTION WORK MUST BE DONE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, SEPTEMBER 1986 AND STANDARD DETAILS FOR PUBLIC WORKS CONSTRUCTION, SEPTEMBER 1984, AS AMENDED, OF THE DEPARTMENT OF PUBLIC WORKS, CITY AND COUNTY OF HONOLULU AND COUNTIES OF KAUAI, MAUI, AND HAWAII.

2. THE UNDERGROUND PIPES, CABLES OR DUCTLINES KNOWN TO EXIST BY THE ENGINEER FROM HIS SEARCH OF RECORDS ARE INDICATED ON THE PLANS. THE CONTRACTOR MUST VERIFY THE LOCATIONS AND DEPTHS OF THE FACILITIES AND EXERCISE PROPER CARE IN EXCAVATING IN THE AREA. WHEREVER CONNECTIONS OF NEW UTILITIES TO EXISTING UTILITIES ARE SHOWN ON THE PLANS, THE CONTRACTOR MUST EXPOSE THE EXISTING LINES AT THE PROPOSED CONNECTIONS TO VERIFY THEIR LOCATIONS AND DEPTHS PRIOR TO EXCAVATION FOR THE NEW LINES.

3. NO CONTRACTOR MUST PERFORM ANY CONSTRUCTION OPERATION SO AS TO CAUSE FALLING ROCKS, SOIL OR DEBRIS IN ANY FORM TO FALL, SLIDE OR FLOW INTO EXISTING CITY DRAINAGE SYSTEMS, OR ADJOINING PROPERTIES, STREETS OR NATURAL WATERCOURSES. SHOULD SUCH VIOLATIONS OCCUR, THE CONTRACTOR MAY BE CITED AND THE CONTRACTOR MUST IMMEDIATELY MAKE ALL REMEDIAL ACTIONS NECESSARY.

4. THE CONTRACTOR OF THE PROJECT MUST BE RESPONSIBLE FOR CONFORMANCE WITH APPLICABLE PROVISIONS OF THE HAWAII ADMINISTRATIVE RULES, TITLE 11, CHAPTER 54, "WATER QUALITY STANDARDS," AND TITLE 11, CHAPTER 55, "WATER POLLUTION CONTROL", AS WELL AS CHAPTER 18A OF THE REVISED ORDINANCES OF HONOLULU, AS AMENDED. BEST MANAGEMENT PRACTICES MUST BE EMPLOYED AT ALL TIMES DURING CONSTRUCTION.

THE CONTRACTOR OF THE PROJECT MUST OBTAIN NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT COVERAGE(S) FOR THE FOLLOWING:

5. STORM WATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITIES THAT DISTURB ONE (1) ACRE OR MORE AND DISCHARGES OF HYDROTESTING EFFLUENT, DEWATERING EFFLUENT, AND WELL DRILLING EFFLUENT TO STATE WATERS.

IN ACCORDANCE WITH STATE LAW, ALL DISCHARGES RELATED TO PROJECT CONSTRUCTION OR OPERATIONS ARE REQUIRED TO COMPLY WITH STATE WATER QUALITY STANDARDS (HAWAII ADMINISTRATIVE RULES, CHAPTER 11-54). BEST MANAGEMENT PRACTICES MUST BE USED TO MINIMIZE OR PREVENT THE DISCHARGE OF SEDIMENT, DEBRIS, AND OTHER POLLUTANTS TO STATE WATERS. PERMIT COVERAGE IS AVAILABLE FROM THE DEPARTMENT OF HEALTH, CLEAN WATER BRANCH AT <http://health.hawaii.gov/cwb>. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING OTHER FEDERAL, STATE, OR LOCAL AUTHORIZATIONS AS REQUIRED BY LAW.

6. THE CONTRACTOR MUST NOTIFY THE CIVIL ENGINEERING BRANCH, DPP AT (808) 768-8084 TO ARRANGE FOR INSPECTIONAL SERVICES AND SUBMIT TWO (2) SETS OF APPROVED CONSTRUCTION PLANS SEVEN (7) DAYS PRIOR TO COMMENCEMENT OF CONSTRUCTION WORK. FOR CITY PROJECTS, THE CONTRACTOR MUST COORDINATE INSPECTIONAL SERVICES WITH RESPONSIBLE CITY AGENCY.

7. CONFINED SPACE

FOR ENTRY BY CITY PERSONNEL, INCLUDING INSPECTORS, INTO A PERMIT REQUIRED CONFINED SPACE AS DEFINED IN 29 CFR PART 1910.146(b), THE CONTRACTOR MUST BE RESPONSIBLE FOR PROVIDING:

I. ALL SAFETY EQUIPMENT REQUIRED BY THE CONFINED SPACE REGULATIONS APPLICABLE TO ALL PARTIES OTHER THAN THE CONSTRUCTION INDUSTRY, TO INCLUDE, BUT NOT LIMITED TO, THE FOLLOWING:

- A) FULL BODY HARNESS FOR UP TO TWO PERSONNEL
- B) LIFELINE AND ASSOCIATES CLIPS
- C) INGRESS/EGRESS AND FALL PROTECTION EQUIPMENT
- D) TWO-WAY RADIOS (WALKIE-TALKIES) IF OUT OF LINE-OF-SIGHT
- E) EMERGENCY (ESCAPE) RESPIRATOR (10 MINUTE DURATION)
- F) CELLULAR TELEPHONES TO CALL FOR EMERGENCY ASSISTANCE
- G) CONTINUOUS GAS DETECTOR (CALIBRATED) TO MEASURE OXYGEN, HYDROGEN SULFIDE, CARBON MONOXIDE AND FLAMMABLES (CAPABLE OF MONITORING AT A DISTANCE AT LEAST 20-FEET AWAY)
- H) PERSONAL MULTI-GAS DETECTOR TO BE CARRIED BY INSPECTOR

II. CONTINUOUS FORCED AIR VENTILATION ADEQUATE TO PROVIDE SAFE ENTRY CONDITIONS.

III. ONE ATTENDANT/RESCUE PERSONNEL TOPSIDE (TWO, IF CONDITIONS WARRANT IT).

8. PURSUANT TO CHAPTER 6E, HRS, IN THE EVENT ANY ARTIFACTS OR HUMAN REMAINS ARE UNCOVERED DURING CONSTRUCTION OPERATIONS, THE CONTRACTOR MUST IMMEDIATELY SUSPEND WORK AND NOTIFY THE HONOLULU POLICE DEPARTMENT, THE STATE DEPARTMENT OF LAND AND NATURAL RESOURCES-HISTORIC PRESERVATION DIVISION (808-692-8015). IN ADDITION, FOR NON-CITY PROJECTS, THE CONTRACTOR MUST INFORM THE CIVIL ENGINEERING BRANCH, DEPARTMENT OF PLANNING AND PERMITTING (808-768-8084), AND FOR CITY PROJECTS, NOTIFY THE RESPONSIBLE CITY AGENCY.

9. FOR PROJECTS ABUTTING STATE HIGHWAYS' RIGHT-OF-WAY, THE OWNER OR HIS AUTHORIZED REPRESENTATIVE MUST NOTIFY THE STATE DEPARTMENT OF TRANSPORTATION, HIGHWAYS DIVISION, OAHU DISTRICT, DRAINAGE DISCHARGE UNIT AT 808-831-6793 FOR AN ASSESSMENT OF STATE HIGHWAYS PERMIT REQUIREMENTS.

10. FOR BENCHMARK, SEE SHEET

GRADING NOTES

1. ALL GRADING WORK MUST BE DONE IN ACCORDANCE WITH CHAPTER 18A, ARTICLES 1, 2, 3 AND 4, AS RELATED TO GRADING, SOIL EROSION AND SEDIMENT CONTROL OF THE REVISED ORDINANCES OF HONOLULU, 2021, AS AMENDED, AND SOILS REPORT.

2. NO CONTRACTOR MUST PERFORM ANY GRADING OPERATION SO AS TO CAUSE FALLING ROCKS, SOIL OR DEBRIS IN ANY FORM TO FALL, SLIDE OR FLOW ONTO ADJOINING PROPERTIES, STREETS OR NATURAL WATERCOURSES. SHOULD SUCH VIOLATIONS OCCUR, THE CONTRACTOR MAY BE CITED AND THE CONTRACTOR MUST IMMEDIATELY MAKE ALL REMEDIAL ACTIONS NECESSARY.

3. THE CONTRACTOR, AT HIS OWN EXPENSE, MUST KEEP THE PROJECT AREA AND SURROUNDING AREA FREE FROM DUST NUISANCE. THE WORK MUST BE IN CONFORMANCE WITH THE AIR POLLUTION CONTROL STANDARDS CONTAINED IN THE HAWAII ADMINISTRATIVE RULES, TITLE 11, CHAPTER 60.1, "AIR POLLUTION CONTROL".

4. THE UNDERGROUND PIPES, CABLES OR DUCTLINES KNOWN TO EXIST BY THE ENGINEER FROM HIS SEARCH OF RECORDS ARE INDICATED ON THE PLANS. THE CONTRACTOR MUST VERIFY THE LOCATIONS AND DEPTHS OF THE FACILITIES AND EXERCISE PROPER CARE IN EXCAVATING IN THE AREA. WHEREVER CONNECTIONS OF NEW UTILITIES ARE SHOWN ON THE PLANS, THE CONTRACTOR MUST EXPOSE THE EXISTING LINES AT THE PROPOSED CONNECTIONS TO VERIFY THEIR LOCATIONS AND DEPTHS PRIOR TO EXCAVATION FOR THE NEW LINES.

5. ADEQUATE PROVISIONS MUST BE MADE TO PREVENT SURFACE WATERS FROM DAMAGING THE CUT FACE OF AN EXCAVATION OR THE SLOPED SURFACES OF A FILL. FURTHERMORE, ADEQUATE PROVISIONS MUST BE MADE TO PREVENT SEDIMENT-LADEN RUNOFF FROM LEAVING THE SITE.

6. ALL SLOPES AND EXPOSED AREAS MUST BE SODDED OR PLANTED AS SOON AS FINAL GRADES HAVE BEEN ESTABLISHED. PLANTING MUST NOT BE DELAYED UNTIL ALL GRADING WORK HAS BEEN COMPLETED. GRADING TO FINAL GRADE MUST BE CONTINUOUS, AND ANY AREA WITHIN WHICH WORK HAS BEEN INTERRUPTED OR DELAYED MUST BE PLANTED.

7. FILLS ON SLOPES STEEPER THAN 5:1 MUST BE KEYS.

8. THE CITY MUST BE INFORMED OF THE LOCATION OF THE BORROW/DISPOSAL SITE FOR THE PROJECT WHEN THE APPLICATION FOR A GRADING PERMIT IS MADE. THE BORROW/DISPOSAL SITE MUST ALSO FULFILL THE REQUIREMENTS OF THE GRADING ORDINANCE.

9. NO GRADING WORK MUST BE DONE ON SATURDAYS, SUNDAYS AND HOLIDAYS AT ANY TIME WITHOUT PRIOR NOTICE TO THE DIRECTOR, DPP, PROVIDED SUCH GRADING WORK IS ALSO IN CONFORMANCE WITH THE COMMUNITY NOISE CONTROL STANDARDS CONTAINED IN THE HAWAII ADMINISTRATIVE RULES, TITLE 11, CHAPTER 46, "COMMUNITY NOISE CONTROL".

10. THE LIMITS OF THE AREA TO BE GRADED MUST BE FLAGGED BEFORE THE COMMENCEMENT OF THE GRADING WORK.

11. THE GENERAL CONTRACTOR OF THE PROJECT MUST BE RESPONSIBLE FOR CONFORMANCE WITH APPLICABLE PROVISIONS OF THE HAWAII ADMINISTRATIVE RULES, TITLE 11, CHAPTER 54, "WATER QUALITY STANDARDS," AND TITLE 11, CHAPTER 55, "WATER POLLUTION CONTROL", AS WELL AS CHAPTER 18A OF THE REVISED ORDINANCES OF HONOLULU, AS AMENDED. BEST MANAGEMENT PRACTICES MUST BE EMPLOYED AT ALL TIMES DURING CONSTRUCTION.

THE GENERAL CONTRACTOR OF THE PROJECT MUST OBTAIN NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT COVERAGE(S) FOR THE FOLLOWING:

- 1. STORM WATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITIES THAT DISTURB ONE (1) ACRE OR MORE AND
- 2. DISCHARGES OF HYDROTESTING EFFLUENT, DEWATERING EFFLUENT, AND WELL DRILLING EFFLUENT TO STATE WATERS.

IN ACCORDANCE WITH STATE LAW, ALL DISCHARGES RELATED TO PROJECT CONSTRUCTION OR OPERATIONS ARE REQUIRED TO COMPLY WITH STATE WATER QUALITY STANDARDS (HAWAII ADMINISTRATIVE RULES, CHAPTER 11-54). BEST MANAGEMENT PRACTICES MUST BE USED TO MINIMIZE OR PREVENT THE DISCHARGE OF SEDIMENT, DEBRIS, AND OTHER POLLUTANTS TO STATE WATERS. PERMIT COVERAGE IS AVAILABLE FROM THE DEPARTMENT OF HEALTH, CLEAN WATER BRANCH AT <http://health.hawaii.gov/cwb>. THE OWNER/DEVELOPER/CONTRACTOR IS RESPONSIBLE FOR OBTAINING OTHER FEDERAL, STATE, OR LOCAL AUTHORIZATIONS AS REQUIRED BY LAW.

12. WHERE APPLICABLE AND FEASIBLE THE MEASURES TO CONTROL EROSION AND OTHER POLLUTANTS MUST BE IN PLACE BEFORE ANY EARTH MOVING PHASE OF THE GRADING IS INITIATED.

13. TEMPORARY EROSION CONTROLS MUST NOT BE REMOVED BEFORE PERMANENT EROSION CONTROLS ARE IN-PLACE AND ESTABLISHED.

14. TEMPORARY EROSION CONTROL PROCEDURES MUST BE SUBMITTED FOR APPROVAL PRIOR TO APPLICATION FOR GRADING PERMIT.

15. IF THE GRADING WORK INVOLVES CONTAMINATED SOIL, THEN ALL GRADING WORK MUST BE DONE IN CONFORMANCE WITH APPLICABLE STATE AND FEDERAL REQUIREMENTS.

16. BUILDING PERMIT FOR RETAINING WALLS MUST BE OBTAINED PRIOR TO COMMENCEMENT OF GRADING WORK ON SITE.

17. PURSUANT TO CHAPTER 6E, HRS, IN THE EVENT ANY ARTIFACTS OR HUMAN REMAINS ARE UNCOVERED DURING CONSTRUCTION OPERATIONS, THE CONTRACTOR MUST IMMEDIATELY SUSPEND WORK AND NOTIFY THE HONOLULU POLICE DEPARTMENT AND THE STATE DEPARTMENT OF LAND AND NATURAL RESOURCES-HISTORIC PRESERVATION DIVISION (808-692-8015). IN ADDITION, FOR NON-CITY PROJECTS, THE CONTRACTOR MUST INFORM THE CIVIL ENGINEERING BRANCH, DPP (808-768-8084); AND FOR CITY PROJECTS, NOTIFY THE RESPONSIBLE CITY AGENCY.

GRADING NOTES (CONTINUED)

18. FOR ALL PROJECTS, WHICH WILL DISTURB ONE (1) ACRE OR MORE OF LAND, THE CONTRACTOR MUST NOT START CONSTRUCTION UNTIL A NOTICE OF GENERAL PERMIT COVERAGE (NGPC) IS RECEIVED FROM THE DEPARTMENT OF HEALTH, STATE OF HAWAII, AND HAS SATISFIED ANY OTHER APPLICABLE REQUIREMENTS OF THE NPDES PERMIT PROGRAM. ALSO, FOR NON-CITY AND OTHER NON-GOVERNMENTAL AGENCY PROJECTS, THE CONTRACTOR MUST PROVIDE A WRITTEN COPY OF THE NGPC TO THE PERMITTING AND INSPECTION SECTION, CIVIL ENGINEERING BRANCH, DPP, AT LEAST SEVEN (7) CALENDAR DAYS BEFORE THE START OF THE CONSTRUCTION. FOR CITY OR OTHER GOVERNMENTAL PROJECTS, THE CONTRACTOR SHOULD PROVIDE A WRITTEN COPY OF THE NGPC TO THE APPROPRIATE CITY DEPARTMENT OR GOVERNMENTAL AGENCY PER THEIR REQUIREMENTS.

19. ALL GRADING AND CONSTRUCTION WORK MUST IMPLEMENT MEASURES TO ENSURE THAT THE DISCHARGE OF POLLUTANTS FROM THE CONSTRUCTION SITE WILL BE REDUCED TO THE MAXIMUM EXTENT PRACTICABLE AND WILL NOT CAUSE OR CONTRIBUTE TO AN EXCEEDANCE OF WATER QUALITY STANDARDS.

20. NON-COMPLIANCE TO ANY OF THE ABOVE REQUIREMENTS MUST MEAN IMMEDIATE SUSPENSION OF ALL WORK, AND REMEDIAL WORK MUST COMMENCE IMMEDIATELY. ALL COSTS INCURRED MUST BE BILLED TO THE VIOLATOR. FURTHERMORE, VIOLATORS MUST BE SUBJECTED TO ADMINISTRATIVE, CIVIL AND/OR CRIMINAL PENALTIES.

21. THE CONTRACTOR SHALL HIRE A LICENSED GEOTECHNICAL ENGINEER TO PROVIDE ONSITE OBSERVATIONS AND TESTING OF GRADING OPERATIONS AND PROVIDE A CERTIFICATION LETTER OF GRADING ACTIVITIES AT THE COMPLETION OF THE PROJECT. (ALL COST OF SAMPLING AND TESTING SHALL BE BORNE BY THE CONTRACTOR.)

22. FOR BENCH MARK, SEE SHEET C-1.10.

PUBLIC HEALTH, SAFETY AND CONVENIENCE NOTES:

1. THE CONTRACTOR MUST OBSERVE AND COMPLY WITH ALL FEDERAL, STATE, AND LOCAL LAWS REQUIRED FOR THE PROTECTION OF THE PUBLIC HEALTH AND SAFETY AND ENVIRONMENTAL QUALITY.

2. THE CONTRACTOR MUST PROVIDE, INSTALL AND MAINTAIN ALL NECESSARY SIGNS, LIGHTS, FLARES, BARRICADES, MARKERS, CONES AND OTHER PROTECTIVE FACILITIES AND MUST TAKE ALL NECESSARY PRECAUTIONS FOR THE PROTECTION, CONVENIENCE AND SAFETY OF THE PUBLIC. THE CONTRACTOR MUST APPLY FOR A CONSTRUCTION PERMIT WITH A NOISE POLLUTION CONTROL PLAN.

ARCHAEOLOGICAL NOTES

1. ALL TRENCHING AND EXCAVATION WORK IN ARCHAEOLOGICAL SITE(S) MUST BE MONITORED BY AN ARCHAEOLOGIST RETAINED BY THE DBOM CONTRACTOR FOR THIS PROJECT.

APPROVED BY:

CHIEF, CIVIL ENGINEERING BRANCH, DPP

DATE

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
STATE OF HAWAII DEPARTMENT OF LAND AND NATURAL RESOURCES ENGINEERING DIVISION					
KAHANA'IKI ACCESS ROAD IMPROVEMENTS					
KAILUA, OAHU, HAWAII					
CONSTRUCTION NOTES - 1					
DESIGNED: HP		SUBMITTED: <i>RS</i>			
DRAWN: IA/TN		DATE: APRIL 30, 2026			
CHECKED: RS		SCALE:			
APPROVED: <i>Dina Lau</i>		E-signed 2026-05-08 09:51 PM HST		DRAWING NO.	
Signature		Expiration Date of the License 4/30/28		C-1.1	
CHIEF ENGINEER		State of Hawaii		SHEET NO. 2 OF 15 SHEETS	

JOB NO. D00CO45C

SHEET NO. 2 OF 15 SHEETS

WILDLIFE NOTES

1. A PROJECT BIOLOGIST FROM THE DIVISION OF FORESTRY AND WILDLIFE (DOFAW) SHALL REVIEW THE SITE PRIOR TO CONSTRUCTION ACTIVITIES TO PROVIDE ASSISTANCE TO THE CONTRACTOR IN PREVENTING DISTURBANCE TO WATERBIRDS AND HAWAIIAN HOARY BATS THAT MAY BE PRESENT.
2. IF A WATERBIRD NEST IS DISCOVERED, WORK SHALL CEASE IMMEDIATELY IN THE VICINITY FOR A MINIMUM OF 60 DAYS; IF A NEST WITH CHICKS IS DISCOVERED, WORK SHALL CEASE IMMEDIATELY FOR 30 DAYS. THESE STANDARD GUIDELINES ARE INTENDED TO PROTECT CHICKS AND MAY BE SHORTENED IF PROJECT BIOLOGIST VERIFIES THAT CHICKS HAVE FLEDGED (USUALLY 5 TO 6 WEEKS AFTER HATCHING). IN EACH CASE, DOFAW SHALL BE CONTACTED IMMEDIATELY.
3. IF A PREVIOUSLY UNDISCOVERED NEST IS FOUND AFTER WORK BEGINS, ALL WORK WILL CEASE IMMEDIATELY WITHIN A MINIMUM RADIUS OF 100 FEET OF THE NEST AND DOFAW SHALL BE CONTACTED IMMEDIATELY.
4. NO WOODY VEGETATION TALLER THAN 15 FEET (4.6 METERS) SHALL BE DISTURBED DURING HAWAIIAN HOARY BAT BIRTHING AND REARING SEASON (JUNE 1 THROUGH SEPTEMBER 15). IN ADVANCE OF WORK ON WOODY VEGETATION, DOFAW SHALL BE CONTACTED TO VERIFY HEIGHT.
5. DOFAW CONTACT INFORMATION: JASON MISAKI, WILDLIFE PROGRAM MANAGER, DEPARTMENT OF LAND AND NATURAL RESOURCES, DIVISION OF FORESTRY AND WILDLIFE, OAHU BRANCH
WORK PHONE: (808) 973-9786; CELL PHONE: (808) 295-5896
ADDRESS: 2135 MAKIKI HEIGHTS DRIVE, HONOLULU, HI 96822

HISTORICAL PRESERVATION NOTES

1. SHOULD HISTORIC REMAINS SUCH AS ARTIFACTS, BURIALS, CONCENTRATIONS OF SHELL OR CHARCOAL BE ENCOUNTERED DURING CONSTRUCTION ACTIVITIES, WORK SHALL CEASE IMMEDIATELY IN THE IMMEDIATE VICINITY OF THE FIND. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER AND STATE HISTORIC PRESERVATION DIVISION AT (808) 692-8015, WHICH WILL ASSESS THE SIGNIFICANCE OF THE FIND AND RECOMMEND THE APPROPRIATE MITIGATION MEASURES, IF NECESSARY.

HAZARDOUS WASTE NOTES

1. SHOULD HAZARDOUS WASTE OF PETROLEUM PRODUCTS FROM ILLEGAL DUMPING BE ENCOUNTERED DURING CONSTRUCTION ACTIVITIES, WORK SHALL CEASE IMMEDIATELY IN THE IMMEDIATE VICINITY OF THE FIND. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER AND HAWAII DEPARTMENT OF HEALTH, SOLID AND HAZARDOUS WASTE BRANCH AT (808) 586-4226, WHICH WILL ASSESS THE FIND AND RECOMMEND THE APPROPRIATE MITIGATION MEASURES, IF NECESSARY.

ENVIRONMENTAL NOTES

1. IN ACCORDANCE WITH CHAPTER 11-60.1, AIR POLLUTION CONTROL, TITLE 11, HAWAII ADMINISTRATIVE RULES, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT EFFECTIVE CONTROL MEASURES ARE PROVIDED TO MINIMIZE OR PREVENT ANY VISIBLE DUST EMISSION CAUSED BY THE CONSTRUCTION WORK FROM IMPACTING THE SURROUNDING AREAS INCLUDING THE OFF-SITE ROADWAYS USED TO ENTER/EXIT THE PROJECT. THESE MEASURES INCLUDE BUT ARE NOT LIMITED TO THE USE OF WATER WAGONS, SPRINKLER SYSTEMS, DUST FENCES, ETC.
2. IN ACCORDANCE WITH CHAPTER 11-55, WATER POLLUTION CONTROL AND CHAPTER 11-54, WATER QUALITY STANDARDS, TITLE 11, HAWAII ADMINISTRATIVE RULES, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT THE BMPs TO MINIMIZE OR PREVENT THE DISCHARGE OF SEDIMENTS, DEBRIS AND OTHER WATER POLLUTANT INTO STATE WATERS IS PROVIDED AT ALL TIMES.
3. IN ACCORDANCE WITH CHAPTER 11-58, SOLID WASTE MANAGEMENT CONTROL, TITLE 11, HAWAII ADMINISTRATIVE RULES, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT GRUB MATERIAL, DEMOLITION WASTE AND CONSTRUCTION WASTE GENERATED BY THE PROJECT ARE DISPOSED OF IN A MANNER OR AT A SITE APPROVED BY THE STATE DEPARTMENT OF HEALTH. DISPOSAL OF ANY OF THESE WASTES BY BURNING IS PROHIBITED.
4. THE CONTRACTOR SHALL REMOVE ALL SILT AND DEBRIS RESULTING FROM THIS WORK AND DEPOSITED IN DRAINAGE FACILITIES, ROADWAYS AND OTHER AREAS. THE COST INCURRED FOR ANY NECESSARY REMEDIAL ACTION BY THE COUNTY ENGINEER OR THE STATE SHALL BE PAYABLE BY THE CONTRACTOR.
5. BEST MANAGEMENT PRACTICES (BMPs) SHALL BE EMPLOYED AT ALL TIMES TO THE MAXIMUM EXTENT PRACTICABLE TO PREVENT DAMAGE BY SEDIMENTATION, EROSION OR DUST TO STREAMS, WATERCOURSES, NATURAL AREAS AND THE PROPERTY OF OTHERS.

HAWAIIAN ELECTRIC COMPANY NOTES

1. LOCATION OF HAWAIIAN ELECTRIC FACILITIES

THE LOCATION OF HAWAIIAN ELECTRIC'S OVERHEAD AND UNDERGROUND FACILITIES SHOWN ON THE PLANS ARE FROM EXISTING RECORDS WITH VARYING DEGREES OF ACCURACY AND ARE NOT GUARANTEED AS SHOWN. THE CONTRACTOR SHALL VERIFY IN THE FIELD THE LOCATIONS OF THE FACILITIES AND SHALL EXERCISE PROPER CARE IN EXCAVATING AND WORKING IN THE AREA. WHEREVER CONNECTIONS OF NEW UTILITIES TO EXISTING UTILITIES AND UTILITY CROSSINGS ARE SHOWN, THE CONTRACTOR SHALL EXPOSE THE EXISTING LINES AT THE PROPOSED CONNECTIONS AND CROSSINGS TO VERIFY THE DEPTHS PRIOR TO EXCAVATION FOR THE NEW LINES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGES TO HAWAIIAN ELECTRIC'S FACILITIES WHETHER SHOWN OR NOT SHOWN ON THE PLANS.
2. COMPLIANCE WITH ALL APPLICABLE OCCUPATIONAL SAFETY AND HEALTH LAWS

THE CONTRACTOR SHALL COMPLY WITH THE ALL APPLICABLE OCCUPATIONAL SAFETY AND HEALTH LAWS AND REGULATIONS, INCLUDING WITHOUT LIMITATION, THOSE RELATED TO WORKING ON OR NEAR EXPOSED OR ENERGIZED POWERLINES AND EQUIPMENT.
3. EXCAVATION CLEARANCE

THE CONTRACTOR SHALL OBTAIN AN EXCAVATION CLEARANCE FROM HAWAIIAN ELECTRIC'S PLANNING AND DESIGN SECTION OF THE CUSTOMER ENGINEERING DEPARTMENT (808-543-5654) A MINIMUM OF TEN (10) WORKING DAYS PRIOR TO STARTING CONSTRUCTION. REQUESTS SHOULD BE EMAILED TO CLEARANCETOEXCAVATE@HAWAIIANELECTRIC.COM.

4. CAUTION!!! ELECTRICAL HAZARD!!!

EXISTING HAWAIIAN ELECTRIC OVERHEAD AND UNDERGROUND POWER LINES ARE ENERGIZED AND WILL REMAIN ENERGIZED DURING CONSTRUCTION UNLESS PRIOR SPECIAL ARRANGEMENTS HAVE BEEN MADE WITH HAWAIIAN ELECTRIC. ONLY HAWAIIAN ELECTRIC PERSONNEL ARE TO HANDLE THESE ENERGIZED POWER LINES AND ERECT TEMPORARY GUARDS TO PROTECT THESE POWER LINES FROM DAMAGE. THE CONTRACTOR SHALL WORK CAUTIOUSLY AT ALL TIMES TO AVOID ACCIDENTS AND DAMAGE TO EXISTING HAWAIIAN ELECTRIC FACILITIES, WHICH CAN RESULT IN ELECTROCUTION.

5. OVERHEAD POWER LINES

OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) REQUIRES THAT A WORKER AND THE LONGEST OBJECT HE OR SHE MAY CONTACT CANNOT COME CLOSER THAN A SPECIFIED MINIMUM RADIAL CLEARANCE WHEN WORKING CLOSE TO OR UNDER ANY OVERHEAD POWER LINES. IT IS THE CONTRACTOR'S RESPONSIBILITY TO BE INFORMED OF AND COMPLY WITH ALL APPLICABLE LAWS.

- AT ANY TIME SHOULD THE CONTRACTOR ANTICIPATE THAT HIS OR HER WORK WILL RESULT IN THE NEED TO ENCR OACH WITHIN THE MINIMUM REQUIRED CLEARANCE AS STATED IN THE LAW, THE CONTRACTOR SHALL NOTIFY HAWAIIAN ELECTRIC AT LEAST THREE (3) MONTHS PRIOR TO THE PLANNED ENCROACHMENT BY SUBMITTING AN APPLICATION THROUGH HAWAIIANELECTRIC.COM SO THAT, IF FEASIBLE, THE NECESSARY PROTECTIONS (E.G. RELOCATE OR DE-ENERGIZE HAWAIIAN ELECTRIC'S POWER LINES) CAN BE INVESTIGATED. HAWAIIAN ELECTRIC MAY ALSO BE ABLE TO BLANKET ITS DISTRIBUTION (12KV AND BELOW) POWER LINES TO PROVIDE A VISUAL AID IN PREVENTING ACCIDENTAL CONTACT. HAWAIIAN ELECTRIC'S COST OF SAFEGUARDING OR IDENTIFYING ITS POWER LINES WILL BE CHARGED TO THE CONTRACTOR.

FOR ASSISTANCE IN IDENTIFYING OVERHEAD POWER LINES, EMAIL CI@HAWAIIANELECTRIC.CO

6. POLE BRACING

A) CONTRACTOR SHALL NOT EXCAVATE WITHIN 10 FEET OF HAWAIIAN ELECTRIC'S UTILITY POLES OR ANY ANCHOR SYSTEM SUPPORTING THE UTILITY POLE. IF CONTRACTOR MUST EXCAVATE AN AREA MORE THAN 12 INCHES DEEP BY 12 INCHES WIDE, AND CLOSER THAN 10 FEET FROM A UTILITY POLE OR ITS ANCHOR SYSTEM, EXCEPT WHEN EXCAVATING FOR RISERS IN A SINGLE TRENCH NOT WIDER THAN 12 INCHES AND NOT DEEPER THAN 3 FEET, CONTRACTOR WILL BE RESPONSIBLE FOR PROTECTING, SUPPORTING, SECURING AND TAKING ALL PRECAUTIONS TO PREVENT DAMAGE TO OR LEANING OF EXISTING POLES. BEFORE COMMENCING SUCH EXCAVATION, CONTRACTOR MUST NOTIFY HAWAIIAN ELECTRIC WHICH MAY LEAD TO IMPLEMENTING POLE BRACING REQUIREMENTS. HAWAIIAN ELECTRIC REQUIRES A MINIMUM OF TEN (10) WORKING DAYS TO CONDUCT A REVIEW THE OF CONTRACTOR'S SUBMITTAL. CONTRACTOR SHALL SUBMIT AN APPLICATION THROUGH HAWAIIANELECTRIC.COM AND INCLUDE BRACING CALCULATIONS AND DRAWINGS, PREPARED AND STAMPED BY A STRUCTURAL ENGINEER LICENSED IN THE STATE OF HAWAII, FOR REVIEW. CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN, INSTALLATION, AND REMOVAL OF THE TEMPORARY POLE BRACING SYSTEM, AS WELL AS ALL COSTS INCURRED BY HAWAIIAN ELECTRIC TO REVIEW CONTRACTOR'S DRAWINGS AND TO REPAIR OR STRAIGHTEN POLES IMPACTED BY CONTRACTOR'S ACTIVITIES, INCLUDING RESPONSE AND RESTORATION COSTS INCURRED BY HAWAIIAN ELECTRIC ARISING OUT OF OR RELATED TO OUTAGES CAUSED BY CONTRACTOR'S FAILURE TO MEET THE FOREGOING REQUIREMENTS. HAWAIIAN ELECTRIC'S RECEIPT OF POLE BRACING CALCULATION OR DRAWING SUBMITTALS OF ANY CONTRACTOR, INCLUDING WORK PROCEDURE, SHALL NOT RELIEVE CONTRACTOR FROM ANY LIABILITY RESULTING FROM CONTRACTOR'S EXCAVATION NEAR OR AROUND HAWAIIAN ELECTRIC'S UTILITY POLES.

B) HAWAIIAN ELECTRIC MAY PROVIDE TO THE CUSTOMER INFORMATION RELATED TO POLE BRACING, INCLUDING CALCULATIONS AND OTHER BASIC ENGINEERING. HOWEVER, HAWAIIAN ELECTRIC PROVIDES THIS INFORMATION FOR INFORMATIONAL PURPOSES ONLY AND DOES NOT WARRANT ANY OF THE INFORMATION PROVIDED TO CUSTOMER. HAWAIIAN ELECTRIC HEREBY DISCLAIMS ANY LIABILITY ASSOCIATED WITH THE CUSTOMER'S USE OF INFORMATION PROVIDED TO THE CUSTOMER FROM HAWAIIAN ELECTRIC. IT IS THE CUSTOMER'S DUTY TO OBTAIN ENGINEERING FROM ITS OWN ENGINEER OR CONTRACTOR IN ORDER TO BRACE POLES AND THE USE OF HAWAIIAN ELECTRIC'S INFORMATION DOES NOT EXCUSE THE CUSTOMER FROM PERFORMING ITS OWN EVALUATION OF THE BRACING NEEDS. SHOULD THE CUSTOMER INSTALL BRACING AT ANY POLE LOCATION, CUSTOMER SHALL DEFEND, INDEMNIFY, AND HOLD HARMLESS HAWAIIAN ELECTRIC FROM ANY THIRD-PARTY CLAIMS ASSOCIATED WITH THE CUSTOMER'S BRACING OF A POLE. SHOULD THE WORK CUSTOMER PERFORM AT OR NEAR THE POLE LOCATION COMPROMISE THE POLE OR ITS SURROUNDINGS IN ANY WAY, CUSTOMER SHALL RESTORE OR REPLACE THE POLE SO THAT IT IS NO LONGER COMPROMISED.

HAWAIIAN ELECTRIC COMPANY NOTES (CONTINUED)

7. UNDERGROUND LINES

THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION WHENEVER CONSTRUCTION CROSSES OR IS IN CLOSE PROXIMITY OF UNDERGROUND POWER LINES. HAWAIIAN ELECTRIC'S EXISTING ELECTRICAL CABLES ARE ENERGIZED AND WILL REMAIN ENERGIZED DURING CONSTRUCTION. ONLY HAWAIIAN ELECTRIC PERSONNEL ARE TO BREAK INTO EXISTING HAWAIIAN ELECTRIC FACILITIES, HANDLE THESE CABLES, AND ERECT TEMPORARY GUARDS TO PROTECT THESE CABLES FROM DAMAGE. THE COST OF HAWAIIAN ELECTRIC'S ASSISTANCE IN PROVIDING PROPER SUPPORT AND PROTECTION OF ITS UNDERGROUND POWER LINES WILL BE CHARGED TO THE CONTRACTOR. FOR ASSISTANCE/COORDINATION IN PROVIDING PROPER SUPPORT AND PROTECTION OF THESE POWER LINES, THE CONTRACTOR SHALL SUBMIT AN APPLICATION THROUGH HAWAIIANELECTRIC.COM A MINIMUM OF TEN (10) WORKING DAYS IN ADVANCE. SPECIAL PRECAUTIONS ARE REQUIRED WHEN EXCAVATING NEAR HAWAIIAN ELECTRIC'S 138KV OR 46KV UNDERGROUND POWER LINES (SEE HAWAIIAN ELECTRIC INSTRUCTIONS TO CONSULTANTS/CONTRACTORS ON "EXCAVATION NEAR HAWAIIAN ELECTRIC'S UNDERGROUND 138KV AND/OR 46KV LINES" FOR DETAILED REQUIREMENTS).

FOR VERIFICATION OF UNDERGROUND POWER LINES, THE CONTRACTOR SHALL CALL THE HAWAII ONE CALL CENTER AT 866-423-7287 A MINIMUM OF FIVE (5) WORKING DAYS IN ADVANCE.

8. UNDERGROUND FUEL PIPELINES

THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION WHENEVER CONSTRUCTION CROSSES OR IS IN CLOSE PROXIMITY OF HAWAIIAN ELECTRIC'S UNDERGROUND FUEL OIL PIPELINES. SPECIAL PRECAUTIONS ARE REQUIRED WHEN EXCAVATING NEAR HAWAIIAN ELECTRIC'S UNDERGROUND FUEL OIL PIPELINES (SEE HAWAIIAN ELECTRIC'S SPECIFIC FUEL PIPELINE "GUIDELINES" TO CONSULTANTS/CONTRACTORS ON EXCAVATION NEAR HAWAIIAN ELECTRIC'S UNDERGROUND FUEL PIPELINES FOR DETAILED REQUIREMENTS).

9. EXCAVATIONS

WHEN TRENCH EXCAVATION IS ADJACENT TO OR BENEATH HAWAIIAN ELECTRIC'S EXISTING STRUCTURES OR FACILITIES, THE CONTRACTOR IS RESPONSIBLE FOR:

- A) ARRANGING FOR HAWAIIAN ELECTRIC STANDBY PERSONNEL TO OBSERVE WORK AT CONTRACTOR'S COST.
- B) SHEETING, BRACING, OR OTHERWISE SUPPORTING THE EXCAVATION AND STABILIZING THE EXISTING GROUND TO RENDER IT SAFE AND SECURE AND TO PREVENT POSSIBLE SLIDES, CAVE-INS, AND SETTLEMENTS.
- C) PROPERLY SUPPORTING EXISTING STRUCTURES OR FACILITIES WITH BEAMS, STRUTS, UNDER-PINNINGS, OR OTHER NECESSARY METHODS TO FULLY PROTECT IT FROM DAMAGE.
- D) BACKFILLING WITH PROPER BACKFILL MATERIAL INCLUDING SPECIAL THERMAL BACKFILL WHERE EXISTING (REFER TO ENGINEERING DIVISION FOR THERMAL BACKFILL SPECIFICATIONS).

10. RELOCATION OF HAWAIIAN ELECTRIC FACILITIES

ANY WORK REQUIRED TO RELOCATE OR MODIFY HAWAIIAN ELECTRIC FACILITIES SHALL BE DONE BY HAWAIIAN ELECTRIC, OR BY THE CONTRACTOR UNDER HAWAIIAN ELECTRIC'S SUPERVISION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COORDINATION, AND SHALL PROVIDE NECESSARY SUPPORT FOR HAWAIIAN ELECTRIC'S WORK, WHICH MAY INCLUDE, BUT NOT BE LIMITED TO, STAKING OF POLE/ANCHOR LOCATIONS, IDENTIFYING RIGHT-OF-WAY AND PROPERTY LINES, EXCAVATION AND BACKFILL, PERMITS AND TRAFFIC CONTROL, BARRICADING, AND RESTORATION OF PAVEMENT, SIDEWALKS, AND OTHER FACILITIES.

- ALL COSTS ASSOCIATED WITH ANY RELOCATION OR MODIFICATION (EITHER TEMPORARY OR PERMANENT) FOR THE CONVENIENCE OF THE CONTRACTOR, OR TO ENABLE THE CONTRACTOR TO PERFORM HIS WORK IN A SAFE AND EXPEDITIOUS MANNER IN FULFILLING HIS CONTRACT OBLIGATIONS SHALL BE BORNE BY THE CONTRACTOR.

11. CONFLICTS

ANY REDESIGN OR RELOCATION OF HAWAIIAN ELECTRIC'S FACILITIES NOT SHOWN ON THE PLANS MAY BE CAUSE FOR LENGTHY DELAYS. THE CONTRACTOR ACKNOWLEDGES THAT HAWAIIAN ELECTRIC IS NOT RESPONSIBLE FOR ANY DELAY OR DAMAGE THAT MAY ARISE AS A RESULT OF ANY CONFLICTS DISCOVERED OR IDENTIFIED WITH RESPECT TO THE LOCATION OR CONSTRUCTION OF HAWAIIAN ELECTRIC'S ELECTRICAL FACILITIES IN THE FIELD, REGARDLESS OF WHETHER THE CONTRACTOR HAS MET THE REQUESTED MINIMUM ADVANCE NOTICES. IN ORDER TO MINIMIZE ANY DELAY OR IMPACT ARISING FROM SUCH CONFLICTS, HAWAIIAN ELECTRIC SHOULD BE NOTIFIED IMMEDIATELY UPON DISCOVERY OR IDENTIFICATION OF SUCH CONFLICT.

12. DAMAGE TO HAWAIIAN ELECTRIC FACILITIES

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL HAWAIIAN ELECTRIC SURFACE AND SUBSURFACE UTILITIES AND SHALL BE RESPONSIBLE FOR ANY DAMAGES TO HAWAIIAN ELECTRIC'S FACILITIES AS A RESULT OF HIS OR HER OPERATIONS. THE CONTRACTOR SHALL IMMEDIATELY REPORT SUCH DAMAGES OR ANY HAZARDOUS CONDITIONS RELATED TO HAWAIIAN ELECTRIC'S LINES TO HAWAIIAN ELECTRIC AT 855-304-1212 AND PRESS 1. REPAIR WORK SHALL BE DONE BY HAWAIIAN ELECTRIC OR BY THE CONTRACTOR UNDER HAWAIIAN ELECTRIC'S SUPERVISION. COSTS FOR DAMAGES TO HAWAIIAN ELECTRIC'S FACILITIES SHALL BE BORNE BY THE CONTRACTOR.

- IN CASE OF DAMAGE OR SUSPECTED DAMAGE TO HAWAIIAN ELECTRIC'S FUEL PIPELINE, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY HAWAIIAN ELECTRIC'S SECURITY COMMAND CENTER AT 808-543-7685 (A 24-HOUR NUMBER) SO HAWAIIAN ELECTRIC PERSONNEL CAN SECURE THE DAMAGED SECTION AND REPORT ANY OIL SPILLS TO THE PROPER AUTHORITIES. ALL COSTS ASSOCIATED WITH THE DAMAGE, REPAIR, AND OIL SPILL CLEANUP SHALL BE BORNE BY THE CONTRACTOR.

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
STATE OF HAWAII DEPARTMENT OF LAND AND NATURAL RESOURCES ENGINEERING DIVISION					
KAHANA'IKI ACCESS ROAD IMPROVEMENTS					
KAILUA, OAHU, HAWAII					
CONSTRUCTION NOTES - 2					
DESIGNED: HP	SUBMITTED:				
DRAWN: IA/TN	DATE: APRIL 30, 2026				
CHECKED: RS	APPROVED:				
APPROVED: Dina Lau E-signed 2026-05-08 09:51PM HST dina.u.lau@hawaii.gov State of Hawaii Chief Engineer		DRAWING NO. C-1.2			

HAWAIIAN ELECTRIC COMPANY NOTES (CONTINUED)

13. HAWAIIAN ELECTRIC STANDBY PERSONNEL

THE CONTRACTOR MAY REQUEST HAWAIIAN ELECTRIC TO PROVIDE AN INSPECTOR TO STANDBY DURING CONSTRUCTION NEAR HAWAIIAN ELECTRIC'S FACILITIES. THE COST OF SUCH INSPECTION WILL BE CHARGED TO THE CONTRACTOR.

THE CONTRACTOR SHALL SUBMIT AN APPLICATION THROUGH HAWAIIANELECTRIC.COM A MINIMUM OF THREE (3) MONTHS IN ADVANCE TO ARRANGE FOR HAWAIIAN ELECTRIC STANDBY PERSONNEL.

14. CLEARANCES

THE FOLLOWING CLEARANCES MUST BE MAINTAINED BETWEEN HAWAIIAN ELECTRIC'S DUCTLINE AND ALL ADJACENT STRUCTURES (CHARTED AND UNCHARTED) IN THE TRENCH:

GUIDELINES FOR MINIMUM HORIZONTAL (PARALLEL) CLEARANCES BETWEEN HAWAIIAN ELECTRIC AND OTHER UNDERGROUND UTILITIES				
UNDERGROUND UTILITY	HAWAIIAN ELECTRIC DIRECT BURIED CABLE	HAWAIIAN ELECTRIC DIRECT BURIED IN CONDUIT (NO CONCRETE ENCASEMENT)	HAWAIIAN ELECTRIC 3" (MINIMUM) CONCRETE ENCASEMENT	APPLICABLE NOTES:
HAWAIIAN ELECTRIC DB CONDUITS	12"	3"	0"	
HAWAIIAN ELECTRIC 3" ENCASEMENT	0"	0"	0"	
TELEPHONE/CATV DB	12"	12"	6"	
TELEPHONE/CATV DB DUCTS	12"	12"	6"	
TELEPHONE/CATV 3" ENCASEMENT	0"	0"	0"	5
TRAFFIC SIGNAL	12"	12"	12"	
WATER DB (BWS OWNED)	36"	36"	36"	1, 4
CUSTOMER OWNED WATER SERVICE LATERALS	12"	12"	12"	
WATER (CONCRETE JACKETED) (BWS OWNED)	36"	36"	36"	1, 4
GAS DB	12"	12"	12"	1
GAS (CONCRETE JACKETED)	12"	12"	12"	1
SEWER DB	36"	36"	36"	1, 2
SEWER (CONCRETE JACKETED)	36"	36"	36"	1, 2
DRAIN	12"	12"	12"	1
FUEL PIPELINES				3

NOTES:

- WHERE SPACE IS AVAILABLE, PARALLEL CLEARANCE TO OTHER UTILITIES, OR FOREIGN STRUCTURES OTHER THAN COMMUNICATION OR TRAFFIC SIGNAL MUST BE 36".
- IF 36" CLEARANCE CANNOT BE MET:
 - IF CLEARANCE IS LESS THAN 12", JACKET SEWER LINE WITH REINFORCED CONCRETE (PER HAWAIIAN ELECTRIC'S STD 30-1030) FOR A DISTANCE OF 5' PLUS PIPE DIAMETER.
 - IF CLEARANCE IS BETWEEN 12" AND 36", JACKET SEWER LINE WITH PLAIN CONCRETE.
- ALL FUEL PIPELINE CROSSINGS MUST BE REVIEWED AND APPROVED BY THE COMPANY THAT OWNS AND MAINTAINS IT.
- 5 FEET CLEAR TO WATER MAINS 16" AND LARGER.
- FOR SITUATIONS WITH 0" MINIMUM SEPARATION, A 6" SEPARATION IS RECOMMENDED.
- CLEARANCES MEASURED FROM OUTER EDGES OR DIAMETERS OF UTILITIES. WHENEVER CONCRETE JACKETS ARE INVOLVED, CLEARANCES MUST BE TOTAL CLEAR DISTANCE BETWEEN THE CONCRETE JACKET AND UTILITY CONCERNED.

HAWAIIAN ELECTRIC COMPANY NOTES (CONTINUED)

GUIDELINES FOR MINIMUM VERTICAL (CROSSING) CLEARANCES BETWEEN HAWAIIAN ELECTRIC AND OTHER UNDERGROUND UTILITIES				
UNDERGROUND UTILITY	HAWAIIAN ELECTRIC DIRECT BURIED CABLE	HAWAIIAN ELECTRIC DIRECT BURIED IN CONDUIT (NO CONCRETE ENCASEMENT)	HAWAIIAN ELECTRIC 3" (MINIMUM) CONCRETE ENCASEMENT	APPLICABLE NOTES:
HAWAIIAN ELECTRIC DB CONDUITS	6"	3"	0"	
HAWAIIAN ELECTRIC 3" ENCASEMENT	0"	0"	0"	
TELEPHONE/CATV DB	12"	12"	6"	
TELEPHONE/CATV DB DUCTS	12"	12"	6"	
TELEPHONE/CATV 3" ENCASEMENT	0"	0"	0"	3
TRAFFIC SIGNAL	12"	12"	6"	
WATER DB (BWS OWNED)	12"	12"	12"	5
CUSTOMER OWNED WATER SERVICE LATERALS	6"	6"	6"	
WATER (CONCRETE JACKETED) (BWS OWNED)	12"	12"	12"	5
GAS DB	12"	12"	12"	
GAS (CONCRETE JACKETED)	12"	12"	12"	
SEWER DB	24"	24"	24"	1
SEWER (CONCRETE JACKETED)	24"	24"	24"	1
DRAIN	12"	12"	6"	
FUEL PIPELINES				2

NOTES:

- IF CLEARANCE CANNOT BE MET:
 - IF CLEARANCE IS LESS THAN 12", JACKET SEWER LINE WITH REINFORCED CONCRETE (PER HAWAIIAN ELECTRIC'S STD 30-1030) FOR A DISTANCE OF 5' PLUS PIPE DIAMETER.
 - IF CLEARANCE IS BETWEEN 12" AND 24", JACKET SEWER LINE WITH PLAIN CONCRETE.
- ALL FUEL PIPELINE CROSSINGS MUST BE REVIEWED AND APPROVED BY THE COMPANY THAT OWNS AND MAINTAINS IT.
- FOR SITUATIONS WITH 0" MINIMUM SEPARATION, A 6" SEPARATION IS RECOMMENDED.
- CLEARANCES MEASURED FROM OUTER EDGES OR DIAMETERS OF UTILITIES. WHENEVER CONCRETE JACKETS ARE INVOLVED, CLEARANCES MUST BE TOTAL CLEAR DISTANCE BETWEEN THE CONCRETE JACKET AND UTILITY CONCERNED.
- 36" CLEARANCE IS REQUIRED FOR TRENCHLESS INSTALLATION WORK.

THE CONTRACTOR SHALL NOTIFY THE CONSTRUCTION MANAGER AND HAWAIIAN ELECTRIC OF ANY HEAT SOURCES (POWER CABLE DUCT BANK, STEAMLINE, ETC.) ENCOUNTERED THAT ARE NOT PROPERLY IDENTIFIED ON THE DRAWING.

15. INDEMNITY

THE CONTRACTOR SHALL INDEMNIFY, DEFEND AND HOLD HARMLESS HAWAIIAN ELECTRIC FROM AND AGAINST ALL LOSSES, DAMAGES, CLAIMS, AND ACTIONS, INCLUDING BUT NOT LIMITED TO REASONABLE ATTORNEY'S FEES AND COSTS BASED UPON OR ARISING OUT OF DAMAGE TO PROPERTY OR INJURIES TO PERSONS, OR OTHER TORTIOUS ACTS CAUSED OR CONTRIBUTED TO BY CONTRACTOR OR ANYONE ACTING UNDER ITS DIRECTION OR CONTROL OR ON ITS BEHALF; PROVIDED CONTRACTOR'S INDEMNITY SHALL NOT BE APPLICABLE TO ANY LIABILITY BASED UPON THE SOLE NEGLIGENCE OF HAWAIIAN ELECTRIC.

ADDITIONAL NOTES WHEN WORK INVOLVES CONSTRUCTION OF HAWAIIAN ELECTRIC FACILITIES

16. SCHEDULE

CONTRACTOR SHALL FURNISH HIS OR HER CONSTRUCTION SCHEDULE SIX (6) MONTHS PRIOR TO STARTING WORK ON HAWAIIAN ELECTRIC FACILITIES. CONTRACTOR SHALL GIVE HAWAIIAN ELECTRIC, IN WRITING, THREE (3) MONTHS NOTICE TO PROCEED WITH HAWAIIAN ELECTRIC'S PORTION OF WORK.

17. AUTHORITY

ALL CONSTRUCTION, RESTORATION WORK, AND INSPECTION SHALL BE SUBJECT TO WHICHEVER GOVERNMENTAL AGENCY HAS AUTHORITY OVER THE WORK.

18. SPECIFICATIONS

CONSTRUCTION OF HAWAIIAN ELECTRIC'S UNDERGROUND FACILITIES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE LATEST REVISIONS OF HAWAIIAN ELECTRIC SPECIFICATIONS CS7001, CS7003, CS7202, CS9301, AND CS9401 AND APPLICABLE HAWAIIAN ELECTRIC STANDARDS.

19. CONSTRUCTION

CONTRACTOR SHALL FURNISH ALL LABOR, MATERIALS, EQUIPMENT, AND SERVICES TO PROPERLY PERFORM AND FULLY COMPLETE ALL WORK SHOWN ON THE CONTRACT, DRAWINGS, AND SPECIFICATIONS. ALL MATERIALS SHALL BE NEW AND MANUFACTURED IN THE UNITED STATES OF AMERICA. ALL MANHOLE, HANDHOLE, AND DUCTLINE INSTALLATIONS SHALL BE INSPECTED AND APPROVED BY HAWAIIAN ELECTRIC PRIOR TO EXCAVATION AND PRIOR TO PLACING CONCRETE. CONTRACTOR SHALL NOTIFY HAWAIIAN ELECTRIC'S INSPECTION GROUP AT 808-543-2567 AT LEAST FIVE (5) WORKING DAYS PRIOR TO INSTALLING FACILITIES OR PLACING CONCRETE.

CONTRACTOR TO COORDINATE WORK TO BREAK INTO HAWAIIAN ELECTRIC'S EXISTING ELECTRICAL FACILITIES WITH HAWAIIAN ELECTRIC'S INSPECTION GROUP AT 808-543-2567 AT LEAST TEN (10) WORKING DAYS IN ADVANCE.

20. STAKEOUT

THE CONTRACTOR SHALL ARRANGE FOR TONEOUTS OF ALL UNDERGROUND FACILITIES AND SHALL STAKEOUT ALL PROPOSED HAWAIIAN ELECTRIC FACILITIES WITHIN THE PROJECT AREA SO AS TO NOT CONFLICT WITH ANY UTILITY (EXISTING OR PROPOSED) AND ANY PROPOSED CONSTRUCTION OR IMPROVEMENT WORK FOR VERIFICATION BY HAWAIIAN ELECTRIC BEFORE PROCEEDING WITH HAWAIIAN ELECTRIC WORK.

21. DUCTLINES


ALL DUCTLINE INSTALLATIONS SHALL BE PVC SCHEDULE 40 ENCASED IN CONCRETE, UNLESS OTHERWISE NOTED. ALL COMPLETED DUCTLINES SHALL BE MANDREL TESTED BY THE CONTRACTOR IN THE PRESENCE OF HAWAIIAN ELECTRIC'S INSPECTOR USING HAWAIIAN ELECTRIC'S STANDARD PRACTICE. THE CONTRACTOR SHALL INSTALL 1800# TENSILE STRENGTH MULETAPE PULL LINE IN ALL COMPLETED DUCTLINES AFTER MANDREL TESTING IS COMPLETE.

22. JOINT POLE REMOVAL

POLES SHALL BE REMOVED IN ACCORDANCE WITH THE APPLICABLE JOINT POLE AGREEMENT OR OPERATING AGREEMENT.

23. AS-BUILT PLANS

THE CONTRACTOR SHALL PROVIDE HAWAIIAN ELECTRIC WITH A SET OF ELECTRONIC AND HARD COPY PLANS OF EACH SHEET SHOWING THE OFFSETS, STATIONING, AND VERTICAL ELEVATION OF THE DUCTLINE(S) CONSTRUCTED.

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
STATE OF HAWAII DEPARTMENT OF LAND AND NATURAL RESOURCES ENGINEERING DIVISION KAHANA'IKI ACCESS ROAD IMPROVEMENTS KAILUA, OAHU, HAWAII CONSTRUCTION NOTES - 3					
DESIGNED:	HP	SUBMITTED:			
DRAWN:	IA/TN	DATE:	APRIL 30, 2026		
CHECKED:	RS				
APPROVED:		Dina Lau E-signed 2026-05-08 09:51PM HST dina.u.lau@hawaii.gov State of Hawaii	DRAWING NO. C-1.3		
CHIEF ENGINEER					

HAWAIIAN TELCOM GENERAL CONSTRUCTION/DESIGN NOTES

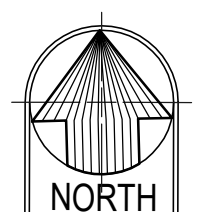
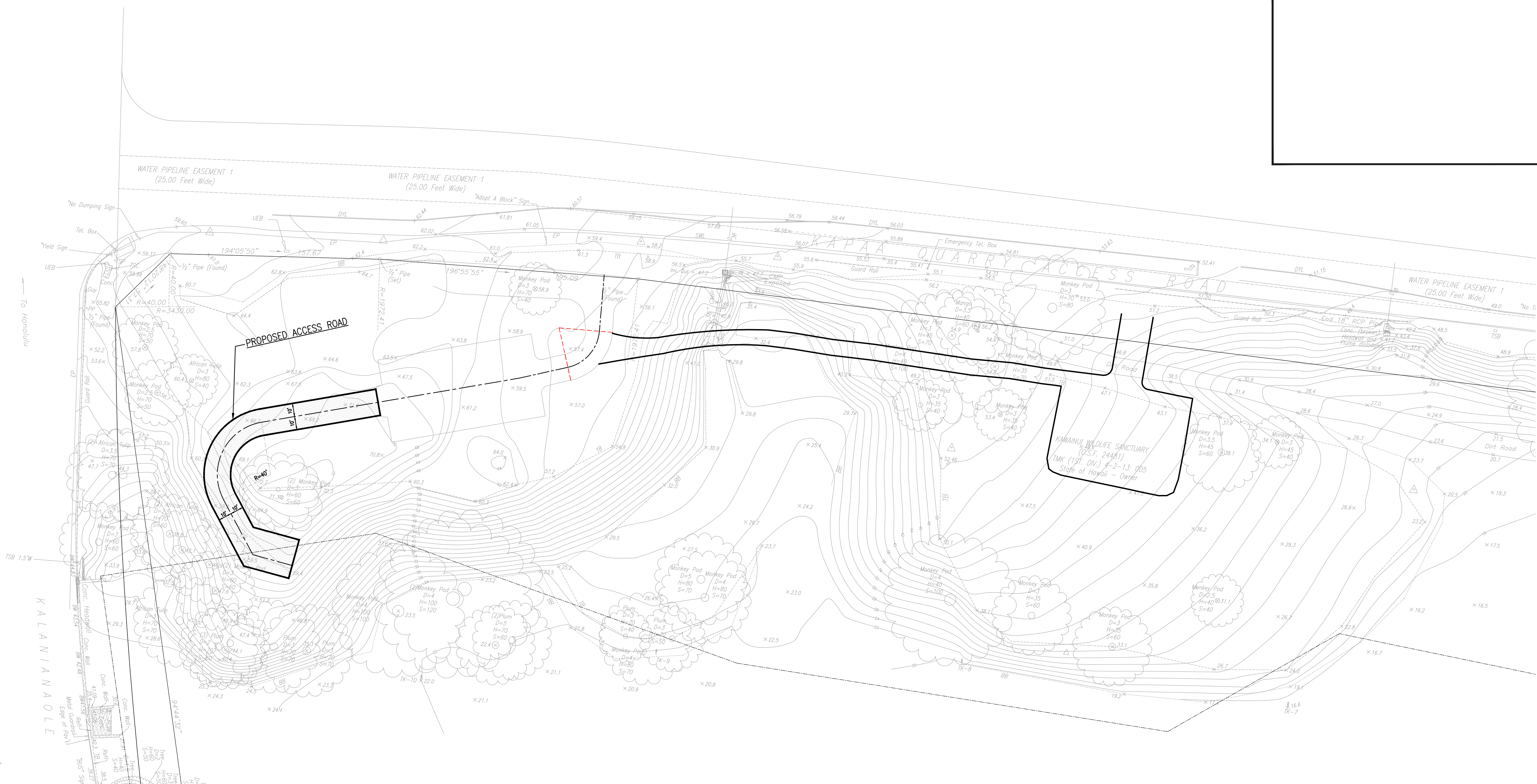
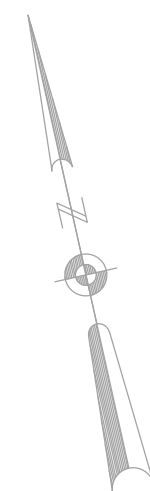
1. THE CONTRACTOR MUST PROCURE AND PAY FOR ALL LICENSES AND PERMITS AND MUST GIVE ALL NOTICES NECESSARY AND INCIDENT TO THE DUE AND LAWFUL PROSECUTION OF THE WORK.
2. THE CONTRACTOR MUST OBTAIN AN EXCAVATION PERMIT AND TONING REQUEST FROM HAWAIIAN TELCOM'S EXCAVATION PERMIT SECTION, LOCATED AT 1177 BISHOP STREET, TWO WEEKS PRIOR TO THE START OF CONSTRUCTION. HOURS OF BUSINESS ARE 8:00 AM TO 11:00 AM AND 12:00 PM TO 3:00 PM MONDAY THROUGH FRIDAY, EXCEPT HOLIDAYS.
3. PRIOR TO THE EXCAVATION OF THE DUCTLINE, THE CONTRACTOR MUST REQUEST HAWAIIAN TELCOM TO LOCATE EXISTING DUCTLINE WHEREVER REQUIRED. FOR UNDERGROUND CABLE LOCATING AND MARKING, FIVE (5) WORKING DAYS ADVANCE NOTICE IS REQUIRED. THREE (3) WORKING DAYS ADVANCE NOTICE IS REQUIRED FOR ANY INSPECTION BY A DESIGNATED REPRESENTATIVE.
4. THE LOCATIONS OF EXISTING UTILITIES ARE APPROXIMATE ONLY. THE CONTRACTOR MUST EXERCISE EXTREME CAUTION AND MUST MAINTAIN PROPER CLEARANCES WHENEVER CONSTRUCTION CROSSES OR IS IN CLOSER PROXIMITY OF HAWAIIAN TELCOM FACILITIES. THE CONTRACTOR MUST VERIFY THEIR LOCATIONS AND MUST BE LIABLE FOR ANY DAMAGES TO HAWAIIAN TELCOM FACILITIES. ANY DAMAGES MUST BE REPORTED IMMEDIATELY TO HAWAIIAN TELCOM'S REPAIR SECTION AT #611 (24 HOURS) OR TO THE EXCAVATION PERMIT SECTION AT 546-7746 (NORMAL WORKING HOURS, MONDAY THROUGH FRIDAY, EXCEPT HOLIDAYS). AS A RESULT OF HIS OPERATIONS, ADJUSTMENTS TO THE NEW DUCTLINE ALIGNMENT, IF REQUIRED, MUST BE MADE TO PROVIDE THE REQUIRED CLEARANCES.
5. THE CONTRACTOR MUST TAKE NECESSARY PRECAUTION NOT TO DAMAGE EXISTING CABLES OR DUCTS. A HAWAIIAN TELCOM INSPECTOR OR DESIGNATED REPRESENTATIVE IS REQUIRED TO BE AT ANY JOB SITE WHENEVER THERE WILL BE A BREAKAGE INTO OR ENTRY INTO ANY STRUCTURE THAT CONTAIN HAWAIIAN TELCOM FACILITIES. TEMPORARY CABLE AND DUCT SUPPORTS MUST BE PROVIDED WHEREVER NECESSARY.
6. THE CONTRACTOR MUST NOTIFY HAWAIIAN TELCOM'S INSPECTOR OR DESIGNATED REPRESENTATIVE A MINIMUM OF 72 HOUR PRIOR TO EXCAVATION, BRACING, OR BACKFILLING OF HAWAIIAN TELCOM'S STRUCTURES OR FACILITIES.
7. ALL APPLICABLE CONSTRUCTION WORK MUST BE DONE IN ACCORDANCE WITH THE "HAWAIIAN TELCOM STANDARD SPECIFICATIONS FOR PLACING TELEPHONE SYSTEMS" DATED JANUARY 2007, ALL SUBSEQUENT AMENDMENTS AND ADDITIONS, AND ALL OTHER PERTINENT STANDARDS FOR TELEPHONE CONSTRUCTION. CONTRACTOR MUST FAMILIARIZE HIS PERSONNEL BY OBTAINING APPLICABLE SPECIFICATIONS.
8. WHEN EXCAVATION IS ADJACENT TO OR BENEATH HAWAIIAN TELCOM'S EXISTING STRUCTURES OR FACILITIES, THE CONTRACTOR MUST:
 - A. SHEET AND/OR BRACE THE EXCAVATION TO PREVENT SLIDES, CAVE-INS, OR SETTLEMENTS TO ENSURE NO MOVEMENT TO HAWAIIAN TELCOM'S STRUCTURES OR FACILITIES.
 - B. PROTECT EXISTING STRUCTURES AND/OR FACILITIES WITH BEAMS, STRUTS, OR UNDERPINNING WHILE EXCAVATING BENEATH THEM TO ENSURE NO MOVEMENT TO HAWAIIAN TELCOM'S STRUCTURES OR FACILITIES.
9. THE CONTRACTOR MUST BRACE ALL POLES OR LIGHT STANDARDS NEAR THE NEW DUCTLINE, MANHOLE, OR HANDHOLE DURING HIS OPERATIONS.
10. THE CONTRACTOR MUST SAW-CUT AC PAVEMENT AND CONCRETE GUTTER WHENEVER NEW MANHOLES, HANDHOLES, OR DUCTLINES ARE TO BE PLACED AND MUST RESTORE TO EXISTING CONDITION OR BETTER.
11. THE CONTRACTOR MUST COMPLY WITH THE POLICY ADOPTED BY THE DEPARTMENT OF PLANNING AND PERMITTING, CITY AND COUNTY OF HONOLULU, CONCERNING THE REPLACEMENT OF CONCRETE SIDEWALKS AFTER EXCAVATION WORK.
12. THE UNDERGROUND PIPES, CABLES, OR DUCTLINES KNOWN TO EXIST BY THE ENGINEER FROM HIS SEARCH OF RECORDS ARE INDICATED ON THE PLANS. THE CONTRACTOR MUST VERIFY THE LOCATIONS AND DEPTHS OF THE FACILITIES AND EXERCISE PROPER CARE IN EXCAVATING IN THE AREA. WHEREVER CONNECTIONS OF NEW UTILITIES TO EXISTING UTILITIES ARE SHOWN ON THE PLANS, THE CONTRACTOR MUST EXPOSE THE EXISTING LINES AT THE PROPOSED CONNECTIONS TO VERIFY THEIR LOCATIONS AND DEPTHS PRIOR TO EXCAVATION FOR THE NEW LINES.
13. WHEREVER CONNECTIONS TO EXISTING UTILITIES ARE SHOWN ON THE PLANS, THE CONTRACTOR MUST EXPOSE THE EXISTING LINES PRIOR TO EXCAVATION OF THE MAIN TRENCHES TO VERIFY THEIR LOCATIONS AND DEPTHS.
14. THE CONTRACTOR, AT HIS OWN EXPENSE, MUST KEEP THE PROJECT AND SURROUNDING AREA FREE FROM DUST NUISANCE. THE COST FOR SUPPLEMENTARY MEASURES, WHICH WILL BE REQUIRED BY THE CITY AND COUNTY, MUST BE BORNE BY THE CONTRACTOR.
15. THE CONTRACTOR MUST PUMP ALL MANHOLES DRY DURING FINAL INSPECTION.
16. THE CONTRACTOR MUST NOTIFY HAWAIIAN TELCOM INSPECTOR 24 HOURS PRIOR TO THE POURING OF CONCRETE OR BACKFILLING.
17. WHEN CONNECTING TO MANHOLE WALLS, ALL EXISTING REINFORCING BARS MUST BE LEFT INTACT. DUCTS MUST BE ADJUSTED IN THE FIELD IN ORDER TO CLEAR REINFORCING.

HAWAIIAN TELCOM GENERAL CONSTRUCTION/DESIGN NOTES (CONTINUED)

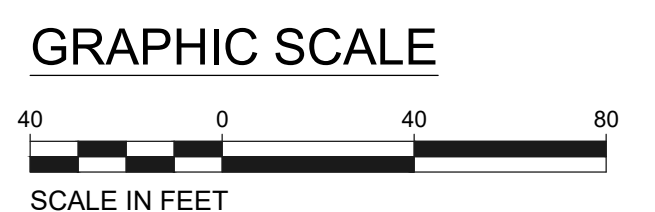
18. THE CONTRACTOR MUST BE RESPONSIBLE FOR LAYING OUT ALL REQUIRED LINES AND GRADES AND MUST PRESERVE ALL BENCH MARKS AND WORKING POINTS NECESSARY TO LAY OUT THE WORK CORRECTLY. THE NEW DUCTLINE MUST BE ADJUSTED BY THE CONTRACTOR TO SUIT THE EXISTING CONDITIONS AND THE DETAILS AS DESCRIBED IN THE PLANS.
19. MINIMUM CONCRETE STRENGTH MUST BE:

FOR DUCTLINE	2500 PSI AT 28 DAYS
FOR MANHOLE	3000 PSI AT 28 DAYS OR AS SPECIFIED IN DESIGN NOTES
20. BENDS IN THE DUCT ALIGNMENTS, DUE TO CHANGES IN GRADE MUST HAVE A MINIMUM RADIUS OF 25 FEET. ALL 90 DEGREE C-BENDS AT A POLE OR AT THE BUILDING FLOOR SLAB PENETRATION, MUST HAVE A BEND RADIUS OF TEN TIMES THE DIAMETER OF THE DUCT OR GREATER.
21. AFTER DUCTLINE HAS BEEN COMPLETED, A MANDREL WITH A SQUARE FRONT NOT LESS THAN 12" LONG AND HAVING A DIAMETER OF 1/4" LESS THAN THE INSIDE DIAMETER OF THE DUCT, MUST BE PULLED THROUGH EACH DUCT AFTER WHICH A BRUSH WITH STIFF BRISTLES MUST BE PULLED THROUGH TO MAKE CERTAIN THAT NO PARTICLES OF EARTH, SAND, OR GRAVEL HAVE BEEN LEFT INSIDE. DUCTS MUST BE COMPLETELY DRY AND CLEAN.
22. ALL DUCTS AND CONDUITS MUST HAVE AN 1800# POLYESTER MULE-TAPE (NEPTCO, WF1800P), HAWAIIAN TELCOM MATERIAL CODE NO. 571154) INSTALLED THROUGHOUT ITS ENTIRE LENGTH. ALL DUCTS MUST BE CAPPED TO PREVENT ENTRY OF FOREIGN MATERIAL DURING CONSTRUCTION AND AT THE COMPLETION OF INSTALLATION.

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
STATE OF HAWAII DEPARTMENT OF LAND AND NATURAL RESOURCES ENGINEERING DIVISION KAHANA'IKI ACCESS ROAD IMPROVEMENTS KAILUA, OAHU, HAWAII <h3 style="text-align: center;">CONSTRUCTION NOTES - 4</h3>					
DESIGNED: HP		SUBMITTED: <i>[Signature]</i>			
DRAWN: IA/TN		DATE: APRIL 30, 2026			
CHECKED: RS		DATE: <i>[Signature]</i>			
APPROVED: <i>[Signature]</i> /30/28		Dina Lau E-signed 2026-05-08 09:51PM HST dina.u.lau@hawaii.gov State of Hawaii Chief Engineer		DRAWING NO. <h2 style="text-align: center;">C-1.4</h2>	



GENERAL SITE PLAN
SCALE: 1" = 40'



APPROVED BY:

CHIEF, CIVIL ENGINEERING BRANCH, DPP DATE

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
STATE OF HAWAII DEPARTMENT OF LAND AND NATURAL RESOURCES ENGINEERING DIVISION					
KAHANA'IKI ACCESS ROAD IMPROVEMENTS KAILUA, OAHU, HAWAII					
GENERAL SITE PLAN					
DESIGNED: HP	SUBMITTED: <i>[Signature]</i>				
DRAWN: IA/TN	DATE: APRIL 30, 2026				
CHECKED: RS	SCALE:				
APPROVED: <i>[Signature]</i>	Dina Lau E-signed 2026-05-08 09:51 PM HST dina.u.lau@hawaii.gov State of Hawaii		DRAWING NO. C-1.5		
4/30/28 Date of the License		CHIEF ENGINEER			

PROJECT SEQUENCE

1. PRIOR TO START OF GRADING, INSTALL STABILIZED CONSTRUCTION ENTRANCE AND TEMPORARY SILT FENCE/FILTER SOCKS PERIMETER CONTROL FOR PROTECTED AREAS. CLEAR AND GRUB AS NECESSARY FOR THE INSTALLATION OF THESE BMPs.
2. COMMENCE GRADING. PROVIDE STABILIZATION FOR STEEP SLOPES (>15%) WITH HYDROSEEDING AS SOON AS GRADING IS COMPLETED ON THOSE AREAS.
3. PROCEED WITH CONSTRUCTION OF PAVED DRIVEWAY ACCESS WITH LEAST POSSIBLE DISTURBANCE OF VEGETATIVE AREAS, AND TEMPORARY STRUCTURES.
4. REMOVE OR DISMANTLE TEMPORARY EROSION CONTROL STRUCTURES AFTER FULL ESTABLISHMENT OF PERMANENT VEGETATIVE COVER.
5. PRACTICE GOOD HOUSEKEEPING MEASURES THROUGHOUT THE DURATION OF CONSTRUCTION.
6. INSPECTIONS SHALL BE PERFORMED WEEKLY.

RAIN RESPONSE PLAN

THE FOLLOWING WILL BE PERFORMED WHEN HEAVY RAINS, TROPICAL STORM OR HURRICANE IS IMMINENT OR IS FORECASTED IN THE NEXT 48 HOURS:

1. TEMPORARY SUSPEND ACTIVE GRADING.
2. INSPECT ALL PERIMETER CONTROLS AND MAINTAIN AS NEEDED. REINSTALL ANY PERIMETER CONTROLS THAT WERE REMOVED DUE TO ACTIVE WORK IN THE AREA. IF A SEVERE STORM IS EXPECTED, REMOVE INLET PROTECTION DEVICES TO PREVENT FLOODING ON SURROUNDING STREETS.
3. COVER OR RELOCATE MATERIALS AND LIQUID MATERIAL CONTAINERS TO AVOID CONTACT WITH RAINWATER.
4. PLACE SPILL PANS OR OIL-ONLY SPILL PANS UNDER CONSTRUCTION VEHICLES TO PREVENT RUNOFF FROM CONTACTING ANY SPILLED PETROLEUM PRODUCTS. PROPERLY DISPOSE OF ANY ACCUMULATED OILY WATER AFTER THE RAIN EVENT.
5. RE-INSPECT AFTER THE APPROACHING HEAVY RAINS, TROPICAL STORM OR HURRICANE, AND REPLACE OR MAINTAIN BMPs AS NEEDED.

EROSION AND SEDIMENT CONTROL NOTES

1. THE CONTRACTOR MUST FOLLOW THE GUIDELINES IN THE CITY AND COUNTY OF HONOLULU'S "RULES RELATING TO WATER QUALITY".
2. MEASURES TO CONTROL EROSION AND OTHER POLLUTANTS MUST BE IN PLACE BEFORE ANY EARTHWORK IS INITIATED.
3. REGULARLY INSPECT AND MAINTAIN ALL EROSION AND SEDIMENT CONTROLS TO ENSURE CONTINUED PERFORMANCE.
4. SLOPE PROTECTION

SLOPE PROTECTION IS REQUIRED ON AREAS WITH SLOPES GREATER THAN 15% AND ON AREAS OF MODERATE SLOPE THAT ARE PRONE TO EROSION UNLESS THEY ARE BEING ACTIVELY WORKED. USE DIVERSION UPSTREAM OF SLOPE (DIKES, SWALES, SLOPE DRAINS) TO DIVERT WATER AROUND THE SLOPE. PROVIDE A 10-FT BUFFER ZONE AT THE TOE OF SLOPE. ONLY 5 ACRES MAY BE DISTURBED AT ANYTIME ON SLOPES GREATER THAN 15%.
5. TEMPORARY STABILIZATION

TEMPORARY STABILIZATION IS REQUIRED ON DISTURBED AREAS WHICH ARE AT FINAL GRADE OR WHEN THE DISTURBED AREA WILL NOT BE WORKED FOR 14 CONSECUTIVE DAYS OR MORE.
6. PERMANENT STABILIZATION ALL DISTURBED AREAS MUST BE PERMANENTLY STABILIZED USING VEGETATIVE COVERING, PAVEMENT, OR EQUIVALENT, PRIOR TO REMOVING EROSION AND SEDIMENT MEASURES. TRAPPED SEDIMENT AND AREAS OF DISTURBED SOIL WHICH RESULT FROM THE REMOVAL OF THE TEMPORARY MEASURES MUST BE IMMEDIATELY AND PERMANENTLY STABILIZED.
7. PRESERVE EXISTING VEGETATION CLEARLY MARK THE AREAS TO BE PRESERVED WITH FLAGS OR TEMPORARY FENCING. WHERE TEMPORARY FENCING IS USED, FENCING MUST BE ADEQUATELY SUPPORTED BY POSTS AND MAINTAINED IN AN UPRIGHT POSITION.
8. MINIMIZE SOIL COMPACTION AREAS WHERE FINAL STABILIZATION OR INFILTRATION PRACTICES WILL BE INSTALLED MUST BE PROTECTED FROM EXCESSIVE COMPACTION DURING CONSTRUCTION. VEHICLE AND EQUIPMENT USE MUST BE RESTRICTED OR TECHNIQUES TO CONDITION THE SOILS TO SUPPORT VEGETATION MUST BE IMPLEMENTED IN THE AREAS THAT HAVE BEEN COMPACTED AND ARE DESIGNATED TO REMAIN VEGETATIVE OR POST-CONSTRUCTION INFILTRATION AREAS. CLEARLY MARK THE AREAS TO BE AVOIDED WITH FLAGS OR TEMPORARY FENCING. WHERE TEMPORARY FENCING IS USED, FENCING MUST BE ADEQUATELY SUPPORTED BY POSTS AND MAINTAINED IN AN UPRIGHT POSITION.
9. PERIMETER CONTROLS

PERIMETER CONTROLS ARE REQUIRED DOWNSLOPE OF ALL DISTURBED AREAS. MAINTAIN DOWNSTREAM VEGETATED BUFFER AREA
10. TRACKING CONTROL
 - MINIMIZE SEDIMENT TRACK-OUT ONTO OFF-SITE STREETS, OTHER PAVED AREAS, AND SIDEWALKS FROM VEHICLES EXITING THE CONSTRUCTION SITE BY RESTRICTING VEHICLE TRAFFIC TO PROPERLY DESIGNATED AREAS AND USING ADDITIONAL CONTROLS TO REMOVE SEDIMENT FROM VEHICLE TIRES PRIOR TO EXITING THE SITE.
 - VEHICULAR PARKING AND MOVEMENTS ON PROJECT SITES MUST BE CONFINED TO PAVED SURFACES OR PREDEFINED PARKING AREAS AND VEHICLE PATHS, WHICH MUST BE MARKED WITH FLAGS OR BOUNDARY FENCING.
 - ALL POLLUTANTS AND MATERIALS THAT ARE DROPPED, WASHED, TRACKED, SPILLED, OR OTHERWISE DISCHARGED FROM A PROJECT SITE TO OFF-SITE STREETS, OTHER PAVED AREAS, SIDEWALKS OR THE MS4 MUST BE CLEANED USING DRY METHODS SUCH AS SWEEPING OR VACUUMING.
 - WASHING POLLUTANTS AND MATERIALS THAT ARE DISCHARGED FROM THE PROJECT SITE TO THE MS4 INTO DRAIN INLETS OR CATCH BASINS IS PROHIBITED UNLESS THE MATERIAL IS SEDIMENT AND THE INLETS ARE DIRECTED TO A SEDIMENT BASIN OR SEDIMENT TRAP.
11. BEST MANAGEMENT PRACTICES (BMPs) MUST NOT BE REMOVED UNTIL FINAL STABILIZATION IS COMPLETE FOR THAT PHASE.
12. REFER TO CITY AND COUNTY OF HONOLULU BEST MANAGEMENT PRACTICES MANUAL-CONSTRUCTION, FOR MORE INFORMATION ON BMPs.
13. AN ESCP COORDINATOR IS REQUIRED FOR THE PROJECT AND MUST BE DESIGNATED TO DPP IN WRITING AT LEAST TWO WEEKS PRIOR TO STARTING WORK.
14. NOTIFY DPP IN WRITING TWO WEEKS PRIOR TO STARTING WORK.
15. PRACTICE GOOD HOUSEKEEPING MEASURES THROUGHOUT THE DURATION OF CONSTRUCTION.
16. REGULARLY INSPECT AND MAINTAIN ALL EROSION AND SEDIMENT CONTROLS TO ENSURE CONTINUED PERFORMANCE.
17. INSPECTIONS WILL BE PERFORMED WEEKLY.
18. CONTRACTOR SHALL COMPLY WITH THE PROJECT SCHEDULING REQUIREMENTS.
19. THE CONTRACTOR SHALL HIRE AND DESIGNATE AN "ESCP COORDINATOR" WHO WILL BE RESPONSIBLE FOR IMPLEMENTING THE APPROVED ESCP AND FOR OVERSEEING COMPLIANCE WITH CITY AND STATE REQUIREMENTS FOR EROSION AND SEDIMENT CONTROL FOR THE DURATION OF THE PROJECT. THE "ESCP COORDINATOR" SHALL BE AUTHORIZED TO SIGN ANY REPORTS, CHECKLISTS, STORM WATER POLLUTION PREVENTION PLANS, AND ALL OTHER DOCUMENTS REQUIRED BY THE PERMITS.

APPROVED BY:

CHIEF, CIVIL ENGINEERING BRANCH, DPP

DATE

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
STATE OF HAWAII DEPARTMENT OF LAND AND NATURAL RESOURCES ENGINEERING DIVISION KAHANA'IKI ACCESS ROAD IMPROVEMENTS KAILUA, OAHU, HAWAII ESCP NOTES - 1					
DESIGNED: HP		SUBMITTED: <i>RS</i>			
DRAWN: IA/TN		DATE: APRIL 30, 2026			
CHECKED: RS		SCAI F:			
APPROVED: <i>Dina Lau</i> Signature		Dina Lau E-signed 2026-05-08 09:51PM HST dina.u.lau@hawaii.gov State of Hawaii Chief ENGINEER		DRAWING NO. C-1.6	
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION. 4/30/26 Expiration Date of the License					

GOOD HOUSEKEEPING BMPs

1. INSPECT BMPs AND SITE WEEKLY

MAINTAIN BMPs AND SITE AS REQUIRED TO ENSURE CONTINUED PERFORMANCE.

2. DUST CONTROL

DUST FROM THE PROJECT SITE MUST NOT BE TRANSPORTED OR DISCHARGED TO OFF-SITE AREAS. WORK MUST BE IN CONFORMANCE WITH THE AIR POLLUTION STANDARDS CONTAINED IN THE "HAWAII ADMINISTRATIVE RULES" TITLE 11, CHAPTER 60.1 "AIR QUALITY CONTROL".

3. MATERIALS DELIVERY, STORAGE, AND USE MANAGEMENT

PREVENT, REDUCE, OR ELIMINATE THE DISCHARGE OF POLLUTANTS FROM MATERIAL DELIVERY, STORAGE, AND USE TO THE STORM WATER SYSTEM OR WATERCOURSES BY MINIMIZING THE STORAGE OF HAZARDOUS MATERIALS ONSITE, STORING MATERIALS IN A DESIGNATED AREA, INSTALLING SECONDARY CONTAINMENT, CONSTRUCTION MATERIALS, WASTE, TOXIC AND HAZARDOUS SUBSTANCES, STOCKPILES, AND OTHER SOURCES OF POLLUTION MUST NOT BE STORED IN BUFFER AREAS, NEAR AREAS OF CONCENTRATED FLOW, OR AREAS ABUTTING THE MS4, RECEIVING WATERS, OR DRAINAGE IMPROVEMENTS THAT DISCHARGE OFF-SITE. PRIMARY AND SECONDARY CONTAINMENT CONTROLS AND COVERS MUST BE IMPLEMENTED TO THE MEP.

4. STOCKPILE MANAGEMENT

STOCKPILES MUST NOT BE LOCATED IN DRAINAGE WAYS, WITHIN 50 FEET FROM AREAS OF CONCENTRATED FLOWS, AND ARE NOT ALLOWED IN THE CITY RIGHT-OF-WAY. SEDIMENT BARRIERS OR SILT FENCES MUST BE USED AROUND THE BASE OF ALL STOCKPILES. STOCKPILES MUST NOT EXCEED 15 FEET IN HEIGHT. STOCKPILES GREATER THAN 15 FEET IN HEIGHT MUST REQUIRE 8 FOOT WIDE BENCHING IN ACCORDANCE WITH ROH CHAPTER 18A, ARTICLE 3. STOCKPILES MUST BE COVERED WITH PLASTIC SHEETING OR A COMPARABLE MATERIAL IF THEY WILL NOT BE ACTIVELY USED WITHIN 7 DAYS.

5. SPILL PREVENTION AND CONTROL

CREATE AND IMPLEMENT SPILL PREVENTION AND RESPONSE PLANS TO ELIMINATE AND MINIMIZE THE DISCHARGE OF POLLUTANTS TO THE MS4 AND RECEIVING WATERS FROM LEAKS AND SPILLS BY REDUCING THE CHANCE FOR SPILLS, ABSORBING, CONTAINING, AND CLEANING UP SPILLS AND PROPERLY DISPOSING OF SPILL MATERIALS. AT A MINIMUM, ALL PROJECTS MUST CLEANUP ALL LEAKS AND SPILL IMMEDIATELY.

6. SOLID WASTE MANAGEMENT

PREVENT OR REDUCE DISCHARGE OF POLLUTANTS TO THE LAND, GROUNDWATER, AND IN STORM WATER FROM SOLID WASTE OR CONSTRUCTION AND DEMOLITION WASTE BY PROVIDING DESIGNATED WASTE COLLECTION AREAS, COLLECT SITE TRASH DAILY, AND ENSURING THAT CONSTRUCTION WASTE IS COLLECTED, REMOVED, AND DISPOSED OF ONLY AT AUTHORIZED DISPOSAL AREAS.

7. HAZARDOUS MATERIALS

PREVENT OR REDUCE THE DISCHARGE OF POLLUTANTS TO STORM WATER FROM HAZARDOUS WASTE THROUGH PROPER MATERIAL USE AND WASTE DISPOSAL. IN THE EVENT THAT HAZARDOUS MATERIALS ARE DISCHARGED TO THE MS4, THE PROPERTY OWNER OR ESCP COORDINATOR MUST IMMEDIATELY NOTIFY THE DEPARTMENT OF FACILITIES MAINTENANCE, HONOLULU FIRE DEPARTMENT, AND HONOLULU POLICE DEPARTMENT OF THE DISCHARGE BY TELEPHONE. A WRITTEN REPORT DESCRIBING THE POLLUTANTS THAT WERE DISCHARGED, THE REASONS FOR THE DISCHARGE, AND THE MEASURES THAT HAVE BEEN TAKEN OR WILL BE TAKEN TO PREVENT A REOCCURRENCE OF THE DISCHARGE MUST BE SUBMITTED TO THE DIRECTOR NO LESS THAN 3 DAYS AFTER NOTIFICATION BY PHONE.

8. NON-HAZARDOUS MATERIALS

IN THE EVENT THAT NON-HAZARDOUS MATERIALS ARE DISCHARGED TO THE MS4, THE PROPERTY OWNER OR ESCP COORDINATOR MUST NOTIFY THE CITY DEPARTMENT OF FACILITIES MAINTENANCE BY TELEPHONE NO LATER THAN THE NEXT BUSINESS DAY. A WRITTEN REPORT DESCRIBING THE POLLUTANTS THAT WERE DISCHARGED, THE REASONS FOR THE DISCHARGE, AND THE MEASURES TAKEN OR WILL BE TAKEN TO PREVENT A REOCCURRENCE OF THE DISCHARGE MUST BE SUBMITTED TO THE DIRECTOR NO LESS THAN 3 DAYS AFTER NOTIFICATION BY PHONE.

9. CONTAMINATED SOIL MANAGEMENT

AT MINIMUM, CONTAIN CONTAMINATED SOIL MATERIAL BY SURROUNDING WITH IMPERMEABLE LINED BERMS OR COVER EXPOSED CONTAMINATED MATERIAL WITH PLASTIC SHEETING. CONTAMINATED SOIL SHOULD BE DISPOSED OF PROPERLY, IN ACCORDANCE WITH ALL APPLICABLE REGULATIONS.

10. CONCRETE WASTE MANAGEMENT

PREVENT OR REDUCE THE DISCHARGE OF POLLUTANTS TO STORM WATER FROM CONCRETE WASTE BY CONDUCTING WASHOUT OFFSITE OR PERFORMING ONSITE WASHOUT IN A DESIGNATED AREA CONSTRUCTED AND MAINTAINED IN SUFFICIENT QUANTITY AND SIZE TO CONTAIN ALL LIQUID AND CONCRETE WASTE GENERATED BY WASHOUT OPERATIONS. PLASTIC LINING MATERIAL SHOULD BE A MINIMUM OF 10 MILLIMETER POLYETHYLENE SHEETING AND SHOULD BE FREE OF HOLES, TEARS, AND OTHER DEFECTS THAT COMPROMISE THE IMPERMEABILITY OF THE MATERIAL. DO NOT LOCATE CONTAINMENT AREAS OR DEVICES WHERE ACCIDENTAL RELEASE OF THE CONTAINED LIQUID CAN DISCHARGE TO WATER BODIES, CHANNELS, OR STORM DRAINS. WASHOUT FACILITIES MUST BE CLEANED, OR NEW FACILITIES MUST BE CONSTRUCTED AND READY FOR USE ONCE THE WASHOUT IS 75 PERCENT FULL. ONCE CONCRETE WASTES ARE WASHED INTO THE DESIGNATED AREA AND ALLOWED TO HARDEN, THE CONCRETE MUST BE BROKEN UP, REMOVED, AND DISPOSED OF AS SOLID WASTES.

11. SANITARY/SEPTIC WASTE MANAGEMENT

TEMPORARY AND PORTABLE SANITARY AND SEPTIC WASTE SYSTEMS MUST BE MOUNTED OR STAKED IN, WELL-MAINTAINED, AND SCHEDULED FOR REGULAR WASTE DISPOSAL AND SERVICING. SOURCES OF SANITARY AND/OR SEPTIC WASTE MUST NOT BE STORED NEAR THE MS4 OR RECEIVING WATERS.

GOOD HOUSEKEEPING BMPs (CONT):

12. LIQUID WASTE MANAGEMENT

LIQUID WASTE MUST BE CONTAINED IN A CONTROLLED AREA SUCH AS A HOLDING PIT, SEDIMENT BASIN, ROLL-OFF BIN, OR PORTABLE TANK OF SUFFICIENT VOLUME TO CONTAIN THE LIQUID WASTES GENERATED. CONTAINMENT AREAS OR DEVICES MUST BE IMPERMEABLE AND LEAK FREE AND MUST NOT BE LOCATED WHERE ACCIDENTAL RELEASE OF THE CONTAINED LIQUID CAN DISCHARGE TO WATER BODIES, CHANNELS, OR STORM DRAINS.

13. VEHICLE AND EQUIPMENT CLEANING

ELIMINATE AND MINIMIZE THE DISCHARGE OF POLLUTANTS TO STORM WATER FROM VEHICLE AND EQUIPMENT CLEANING OPERATIONS BY USING OFF-SITE FACILITIES WHEN FEASIBLE, WASHING IN DESIGNATED, CONTAINED AREAS ONLY, AND ELIMINATING DISCHARGES TO THE STORM DRAIN SYSTEM BY EVAPORATING AND/OR TREATING WASH WATER AS APPROPRIATE, OR INFILTRATING WASH WATER FOR EXTERIOR CLEANING ACTIVITIES THAT USE WATER ONLY.

14. VEHICLE AND EQUIPMENT FUELING

PREVENT FUEL SPILLS AND LEAKS BY USING OFF-SITE FACILITIES, FUELING ONLY IN DESIGNATED AREAS, ENCLOSING OR COVERING STORED FUEL, AND IMPLEMENTING SPILL CONTROLS SUCH AS SECONDARY CONTAINMENT AND ACTIVE MEASURES USING SPILL RESPONSE KITS.

15. VEHICLE AND EQUIPMENT MAINTENANCE

ELIMINATE AND MINIMIZE THE DISCHARGE OF POLLUTANTS TO STORM WATER FROM VEHICLE AND EQUIPMENT OPERATIONS BY USING OFF-SITE FACILITIES WHEN FEASIBLE, PERFORMING WORK IN DESIGNATED AREAS ONLY, USING SPILL PADS UNDER VEHICLES AND EQUIPMENT, CHECKING FOR LEAKS AND SPILLS, AND CONTAINING AND CLEANING UP SPILLS IMMEDIATELY.

16. TRACKING CONTROL

- MINIMIZE SEDIMENT TRACK-OUT ONTO OFF-SITE STREETS, OTHER PAVED AREAS, AND SIDEWALKS FROM VEHICLES EXITING THE CONSTRUCTION SITE BY RESTRICTING VEHICLE TRAFFIC TO PROPERLY DESIGNATED AREAS AND USING ADDITIONAL CONTROLS TO REMOVE SEDIMENT FROM VEHICLE TIRES PRIOR TO EXITING JOB SITE.
- VEHICULAR PARKING AND MOVEMENTS ON PROJECT SITES MUST BE CONFINED TO PAVED SURFACES OR PREDEFINED PARKING AREAS AND VEHICLE PATHS, WHICH MUST BE MARKED WITH FLAGS OR BOUNDARY FENCING.
- ALL POLLUTANTS AND MATERIALS THAT ARE DROPPED, WASHED, TRACKED, SPILLED, OR OTHERWISE DISCHARGED FROM A PROJECT SITE TO OFF-SITE STREETS, OTHER PAVED AREAS, SIDEWALKS OR THE MS4 MUST BE CLEANED USING DRY METHODS SUCH AS SWEEPING OR VACUUMING.
- WASHING POLLUTANTS AND MATERIALS THAT ARE DISCHARGED FROM THE PROJECT SITE TO THE MS4 INTO DRAIN INLETS OR CATCH BASINS IS PROHIBITED UNLESS THE MATERIAL IS SEDIMENT AND THE INLETS ARE DIRECTED TO A SEDIMENT BASIN OR SEDIMENT TRAP.

17. STABILIZED CONSTRUCTION ENTRANCE AND EXIT

A STABILIZED CONSTRUCTION ENTRANCE AND EXIT MUST BE PROVIDED BASED ON EROSION AND SEDIMENT CONTROL PLAN DETAILS, AND MUST BE REGULARLY INSPECTED/MAINTAINED TO ENSURE CONTINUED PERFORMANCE.

18. DEWATERING OPERATIONS

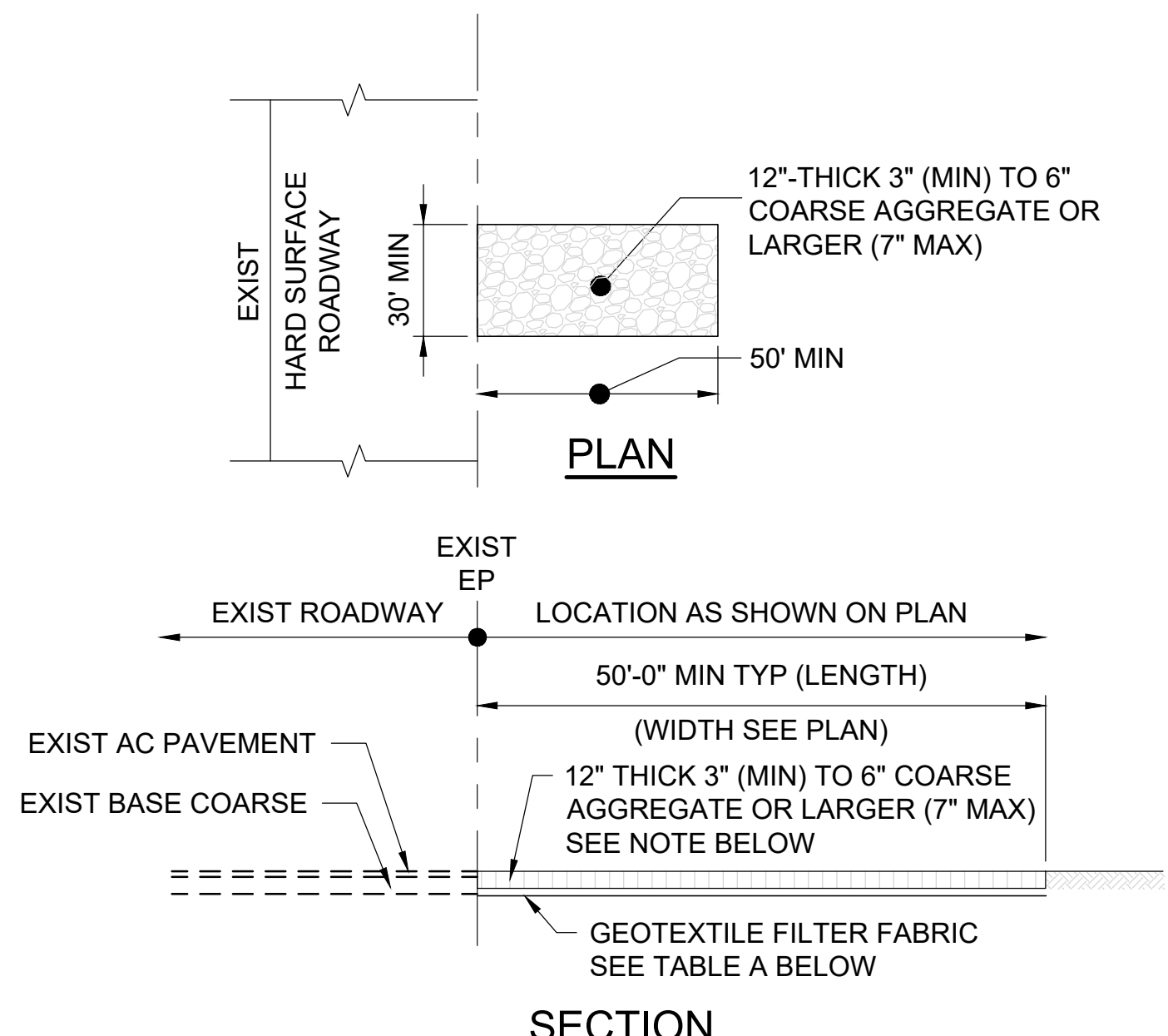
DEWATERING NON-STORM WATER CANNOT BE DISCHARGED FROM THE SITE WITHOUT PRIOR NOTICE AN APPROVAL FROM THE DPP AND DEPARTMENT OF HEALTH. DEWATERING DISCHARGES MUST BE KEPT ONSITE USING A SEDIMENT BASIN, SEDIMENT TRAP, WEIR TANK, DEWATERING TANK, FILTRATION SYSTEM OR OTHER MANUFACTURED SYSTEM.

APPROVED BY:

CHIEF, CIVIL ENGINEERING BRANCH, DPP

DATE

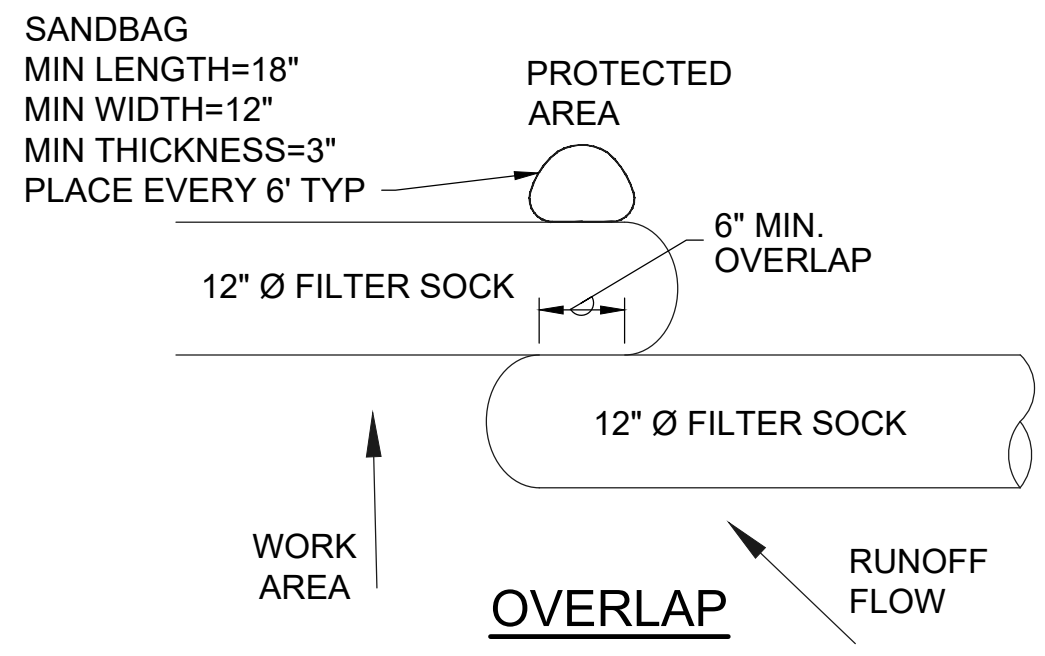
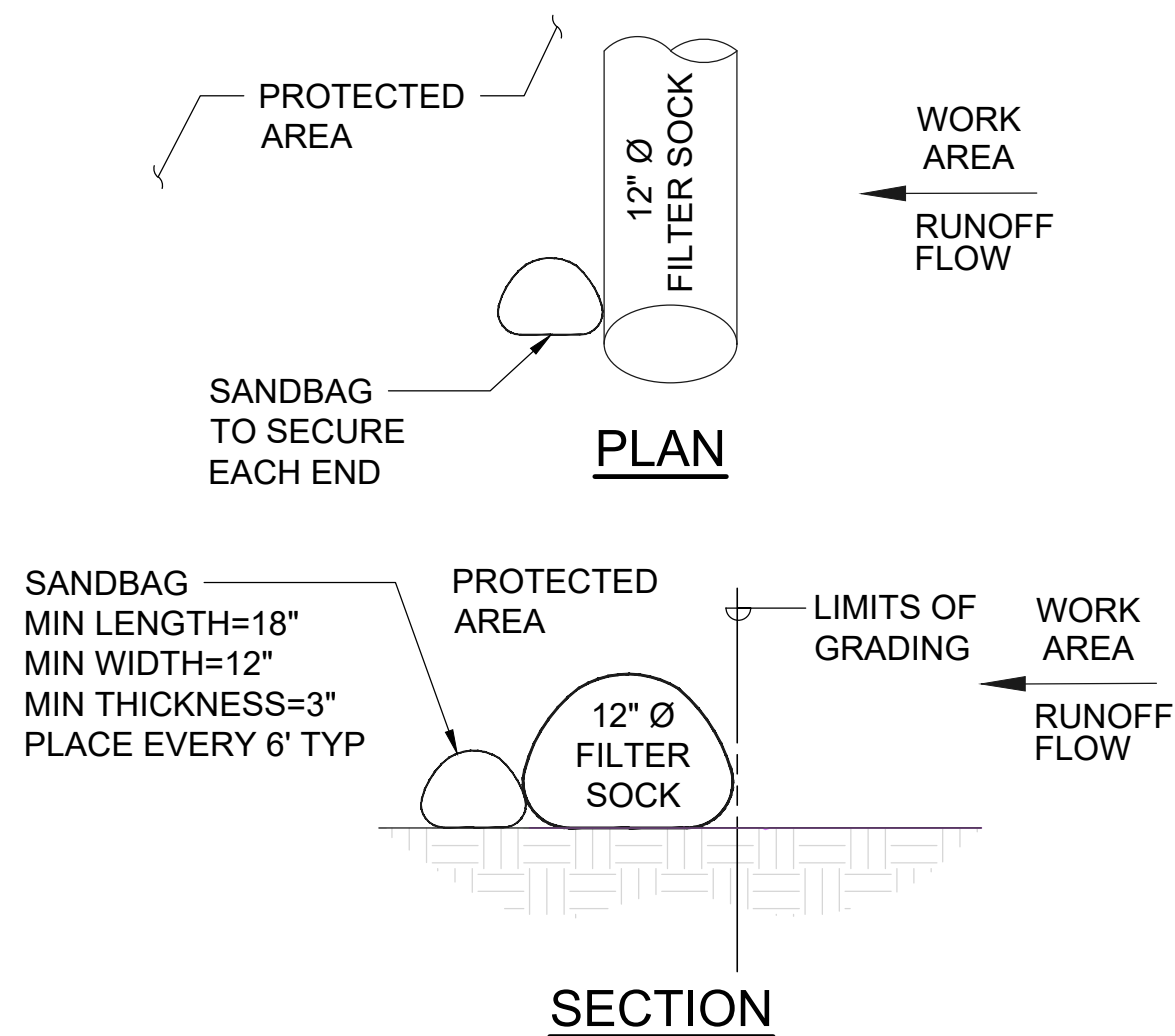
REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
		STATE OF HAWAII DEPARTMENT OF LAND AND NATURAL RESOURCES ENGINEERING DIVISION			
		KAHANA'IKI ACCESS ROAD IMPROVEMENTS			
		KAILUA, OAHU, HAWAII			
		ESCP NOTES - 2			
		DESIGNED: HP	SUBMITTED: <i>[Signature]</i>		
		DRAWN: IA/TN	DATE: APRIL 30, 2026		
		CHECKED: RS	SCALE:		
		APPROVED:	Dina Lau E-signed 2026-05-08 09:51 PM HST dina.lau@hawaii.gov State of Hawaii		DRAWING NO. C-1.7
		Signature <i>[Signature]</i> 4/30/26 Expiration Date of the License			



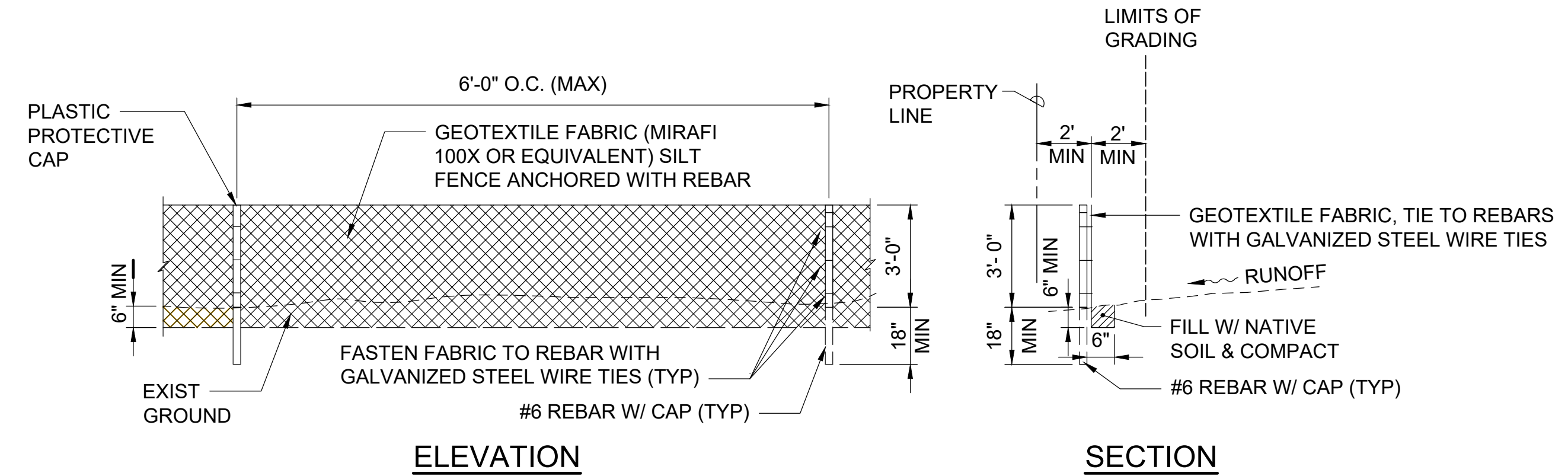
NOTE:
COARSE AGGREGATE LAYER SHALL BE REMOVED IMMEDIATELY PRIOR TO INSTALLATION OF ROADWAY BASE COURSE.

TABLE A GEOTEXTILE REQUIREMENTS	
PHYSICAL PROPERTY	REQUIREMENTS
GRAB TENSILE STRENGTH	220 LB (ASTM D1682)
ELONGATION FAILURE	60% (ASTM D1682)
MULLEN BURST STRENGTH	430 LB (ASTM D3768)
PUNCTURE STRENGTH	125 LB (ASTM D751, MODIFIED)
EQUIVALENT OPENING	SIZE 40-80 (U.S. STD SIEVE, CW-02215)

1 CONSTRUCTION INGRESS/EGRESS DETAILS
SCALE: NTS



2 FILTER SOCK DETAIL
SCALE: NTS



3 SILT FENCE DETAIL
SCALE: NTS

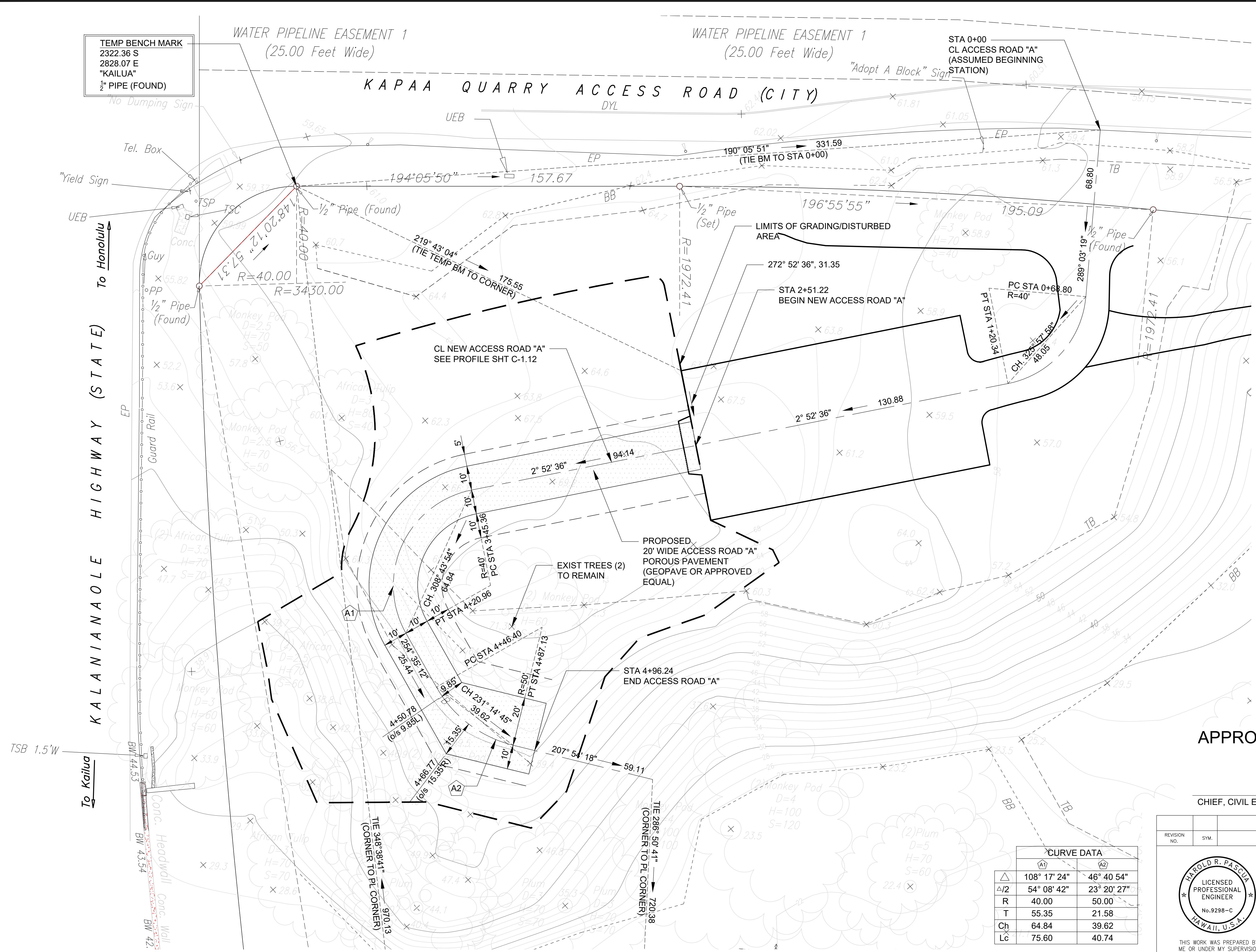
APPROVED BY:

CHIEF, CIVIL ENGINEERING BRANCH, DPP DATE

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
STATE OF HAWAII DEPARTMENT OF LAND AND NATURAL RESOURCES ENGINEERING DIVISION KAHANAIKI ACCESS ROAD IMPROVEMENTS KAILUA, OAHU, HAWAII					
ESCP DETAILS					
DESIGNED: HP		SUBMITTED: <i>[Signature]</i>			
DRAWN: IA/TN		DATE: APRIL 30, 2026			
CHECKED: RS		APPROVED: <i>[Signature]</i>			
APPROVED: <i>[Signature]</i>		Dina Lau E-signed 2026-05-08 09:51PM HST dina.u.lau@hawaii.gov State of Hawaii Civil Engineer		DRAWING NO. C-1.8	

JOB NO. D00CO45C SHEET NO. 9 OF 15 SHEETS

TEMP BENCH MARK
2322.36 S
2828.07 E
"KAILUA"
1/2" PIPE (FOUND)



KALANIANA'OLE HIGHWAY (STATE)

KAPAA QUARRY ACCESS ROAD (CITY)

CL NEW ACCESS ROAD "A"
SEE PROFILE SHT C-1.12

PROPOSED
20' WIDE ACCESS ROAD "A"
POROUS PAVEMENT
(GEOPAVE OR APPROVED
EQUAL)

STA 4+96.24
END ACCESS ROAD "A"

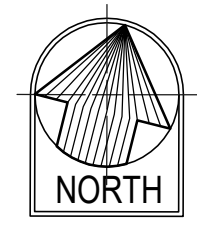
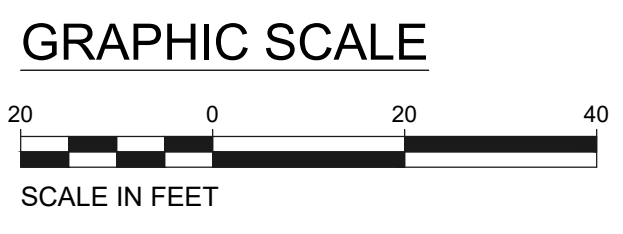
STA 0+00
CL ACCESS ROAD "A"
(ASSUMED BEGINNING
STATION)

LIMITS OF GRADING/DISTURBED
AREA

APPROVED BY:

CHIEF, CIVIL ENGINEERING BRANCH, DPP DATE

CURVE DATA	
(A1)	(A2)
Δ	108° 17' 24"
Δ/2	54° 08' 42"
R	40.00
T	55.35
Ch	64.84
Lc	75.60



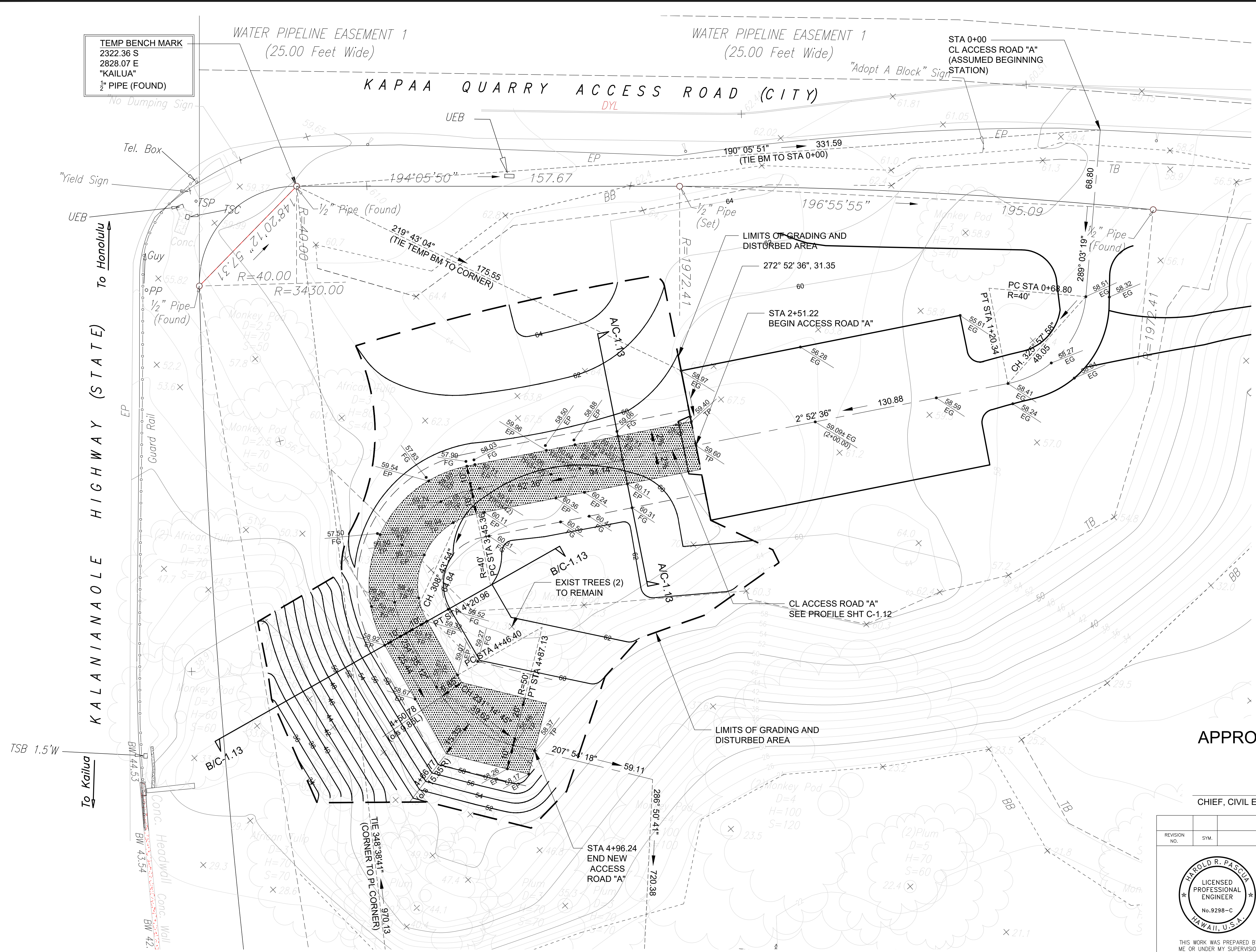
SITE PLAN
SCALE: 1" = 20'

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
STATE OF HAWAII DEPARTMENT OF LAND AND NATURAL RESOURCES ENGINEERING DIVISION					
KAHANAIKI ACCESS ROAD IMPROVEMENTS					
KAILUA, OAHU, HAWAII					
SITE PLAN					
DESIGNED: HP	SUBMITTED: <i>[Signature]</i>				
DRAWN: IA/TN	DATE: APRIL 30, 2026				
CHECKED: RS	SCALE:				
APPROVED: <i>[Signature]</i>	Dina Lau E-signed 2026-05-08 09:51PM HST dina.u.lau@hawaii.gov State of Hawaii		DRAWING NO. C-1.10		
CHIEF ENGINEER	4/30/28 Expiration Date of the License		JOB NO. D00C045C SHEET NO. 11 OF 15 SHEETS		



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.

TEMP BENCH MARK
2322.36 S
2828.07 E
"KAILUA"
1/2" PIPE (FOUND)



- LEGEND:**
- PROPERTY LINE
 - - - LIMITS OF GRADING AND DISTURBED AREA
 - x57.0 SPOT ELEVATION-EXIST GROUND ELEVATION
 - 62 EXIST GROUND CONTOUR
 - 60 FINISH GRADE CONTOUR
 - 59.80 SPOT ELEVATION-EXIST TOP OF PAVEMENT ELEVATION
 - 57.00 SPOT ELEVATION-EXIST GROUND ELEVATION
 - 54.80 SPOT ELEVATION-EXIST TOP BANK ELEVATION
 - 32.00 SPOT ELEVATION-EXIST BOTTOM BANK ELEVATION
 - 59.60 SPOT ELEVATION-TOP OF PAVEMENT ELEVATION
 - [Hatched Box] NEW POROUS PAVEMENT (GEOPAVE OR EQUAL)

EARTHWORK SUMMARY:
(CATEGORY #4)
EXCAVATION = CY
EMBANKMENT = CY
GRADED & DISTURBED AREA = 0.66 ACS
FOR GRADING PERMIT ONLY

APPROVED BY:

CHIEF, CIVIL ENGINEERING BRANCH, DPP
DATE _____

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.

Signature: _____
Date of License: 4/30/28

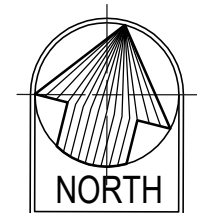
STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

KAHANAIKI ACCESS ROAD IMPROVEMENTS

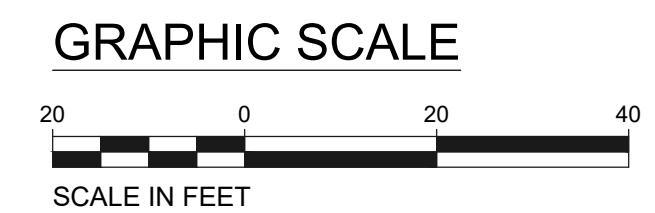
KAILUA, OAHU, HAWAII

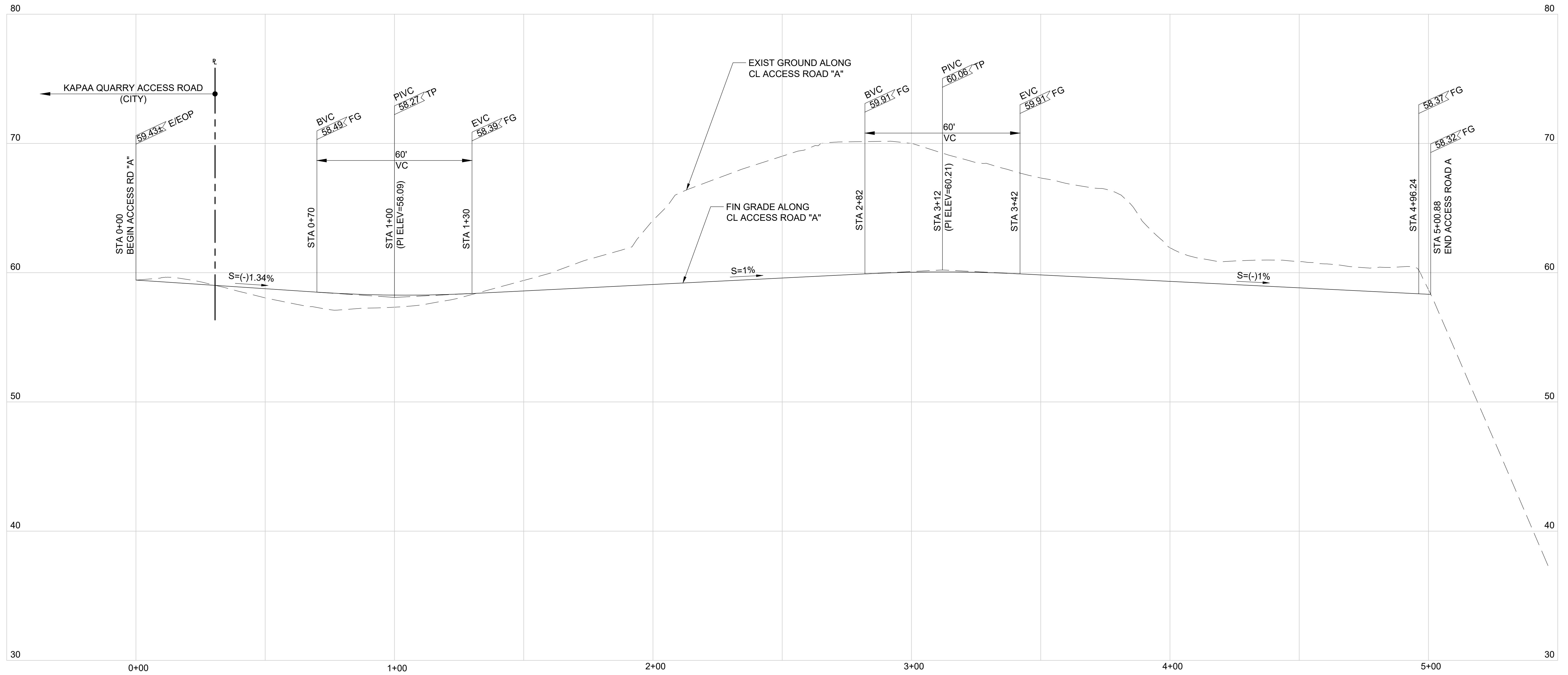
GRADING PLAN

DESIGNED: HP	SUBMITTED: _____
DRAWN: IA/TN	DATE: APRIL 30, 2026
CHECKED: RS	SCALE: _____
APPROVED: Dina Lau E-signed 2026-05-08 09:51PM HST Date of the License: _____ State of Hawaii Civil Engineer	DRAWING NO. C-1.11



GRADING PLAN
SCALE: 1" = 20'





PROFILE - ACCESS ROAD "A"

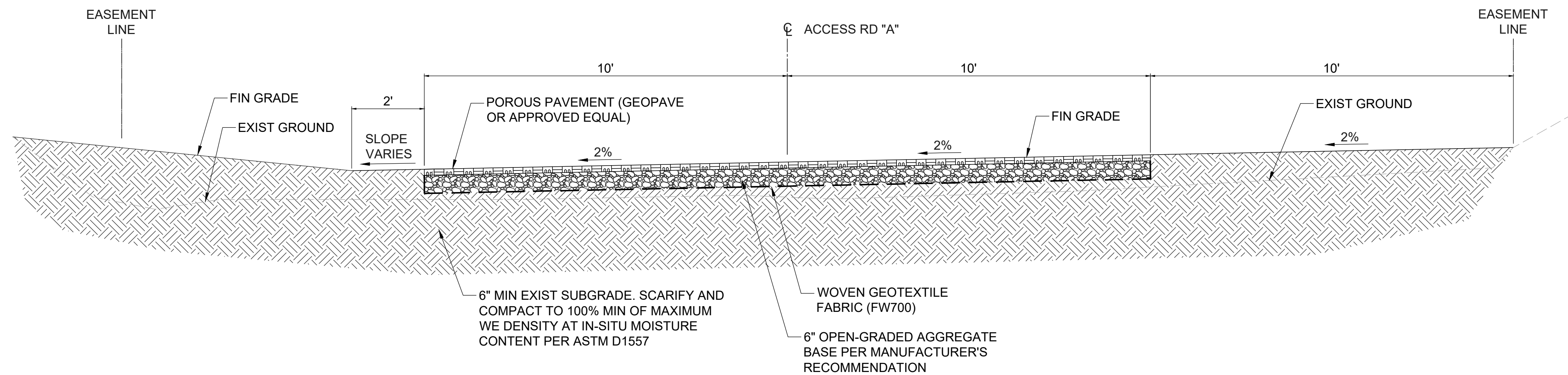
SCALE: 1" = 20' (HORIZ)
1" = 4' (VERT)

APPROVED BY:

CHIEF, CIVIL ENGINEERING BRANCH, DPP

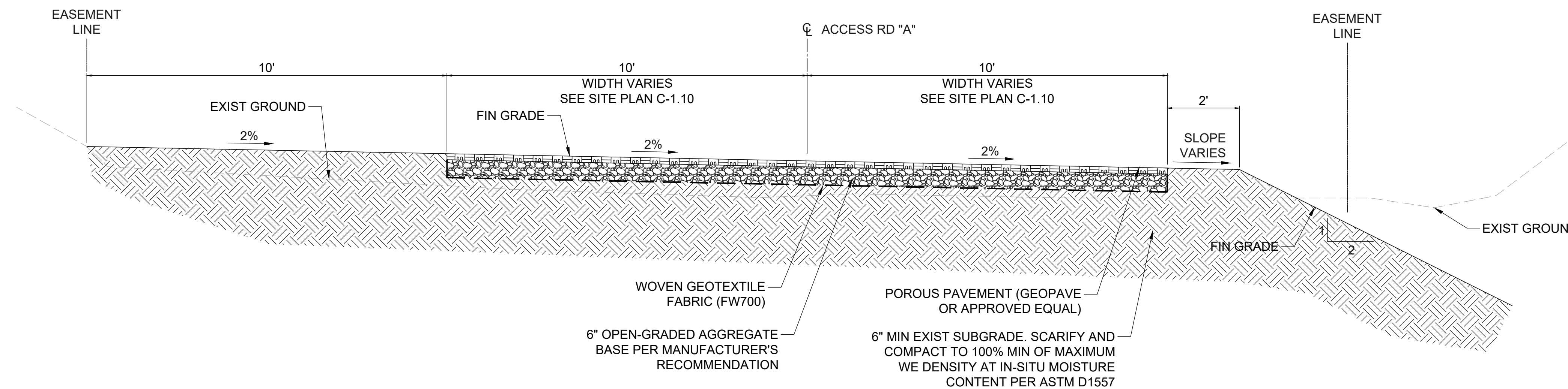
DATE

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
STATE OF HAWAII DEPARTMENT OF LAND AND NATURAL RESOURCES ENGINEERING DIVISION					
KAHANAIKI ACCESS ROAD IMPROVEMENTS					
KAILUA, OAHU, HAWAII					
PROFILE - ACCESS ROAD "A"					
DESIGNED: HP		SUBMITTED: <i>HP</i>			
DRAWN: IA/TN		DATE: APRIL 30, 2026			
CHECKED: RS					
APPROVED: <i>Dina Lau</i>		DRAWING NO.			
Signature		E-signed 2026-05-08 09:51PM HST		dina.u.lau@hawaii.gov	
4/30/28		Date of the License		State of Hawaii	
CHIEF ENGINEER		Civil Engineer		C-1.12	



**SECTION A - TYPICAL SECTION
ACCESS ROAD "A" (STA 2+82)**

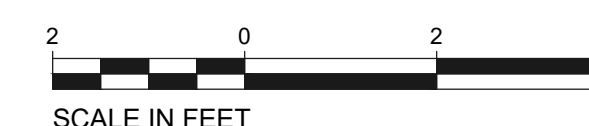
SCALE: 1" = 2'



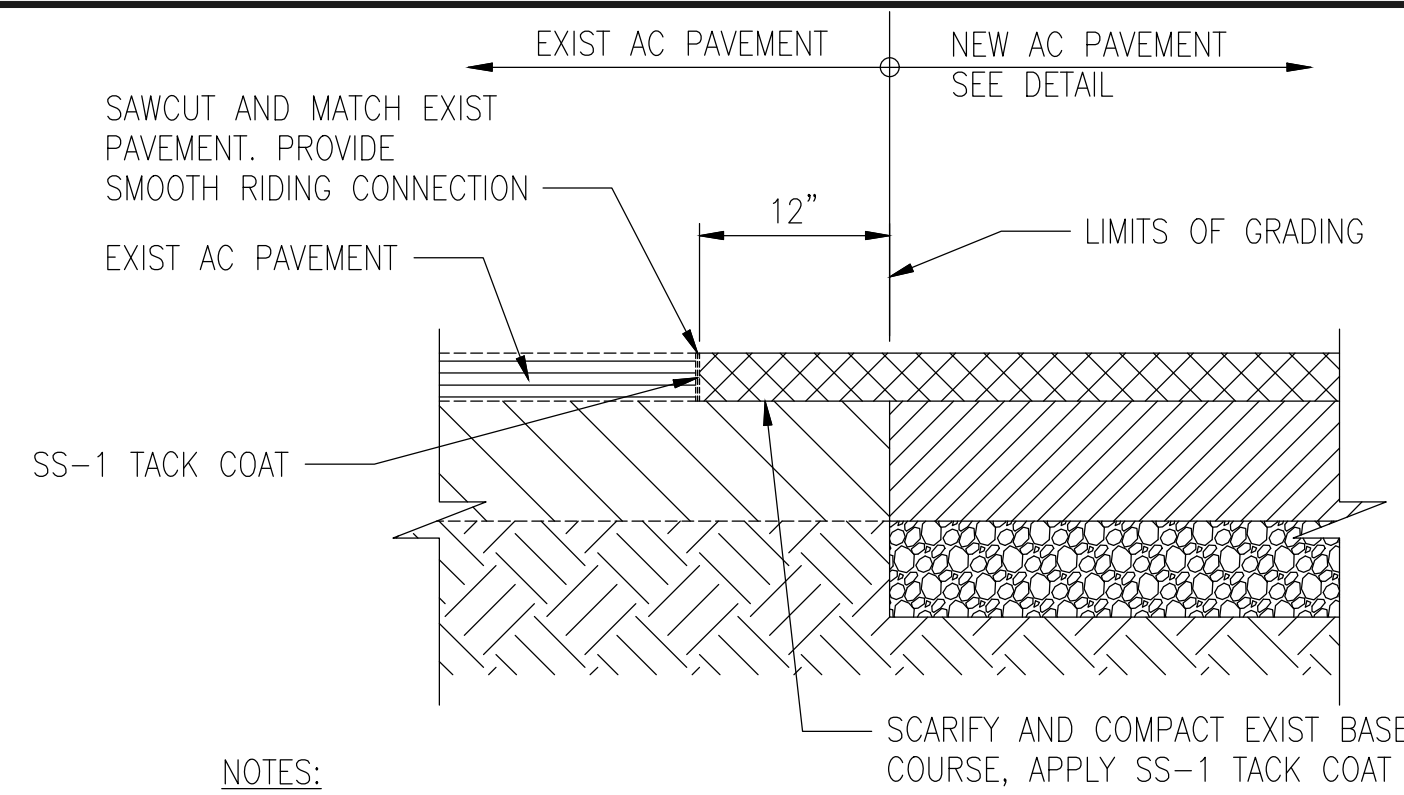
**SECTION B - TYPICAL SECTION
ACCESS ROAD "B" (STA 4+20.96)**

SCALE: 1" = 2'

GRAPHIC SCALE



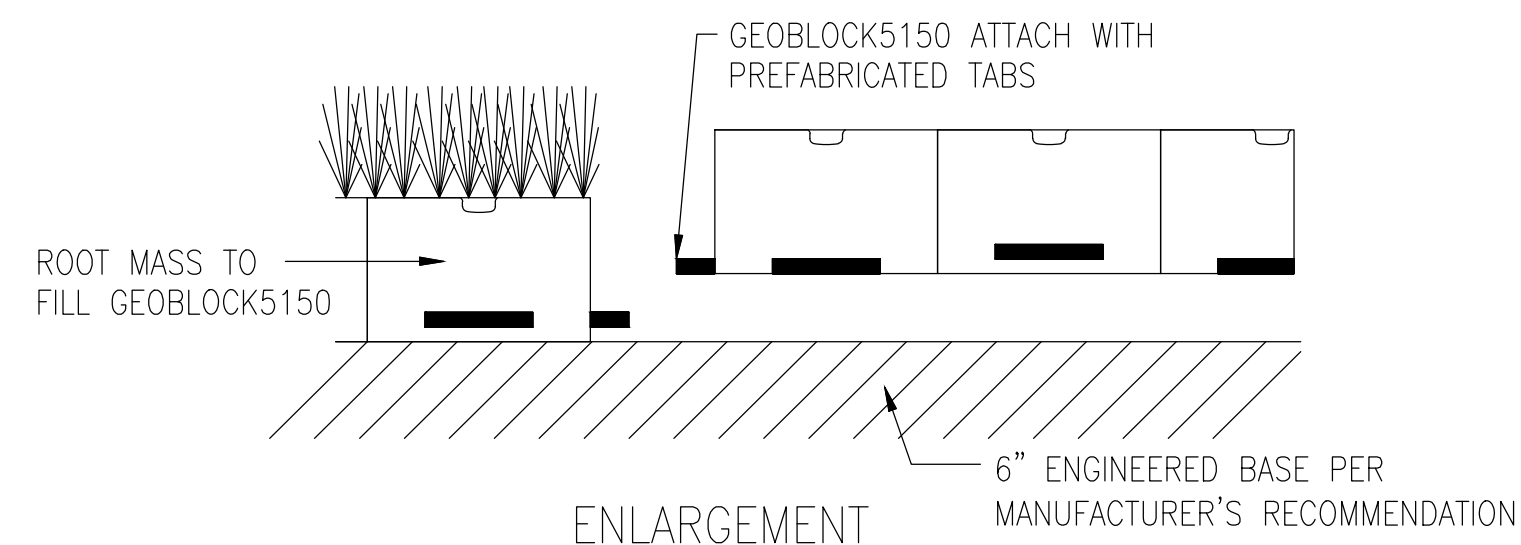
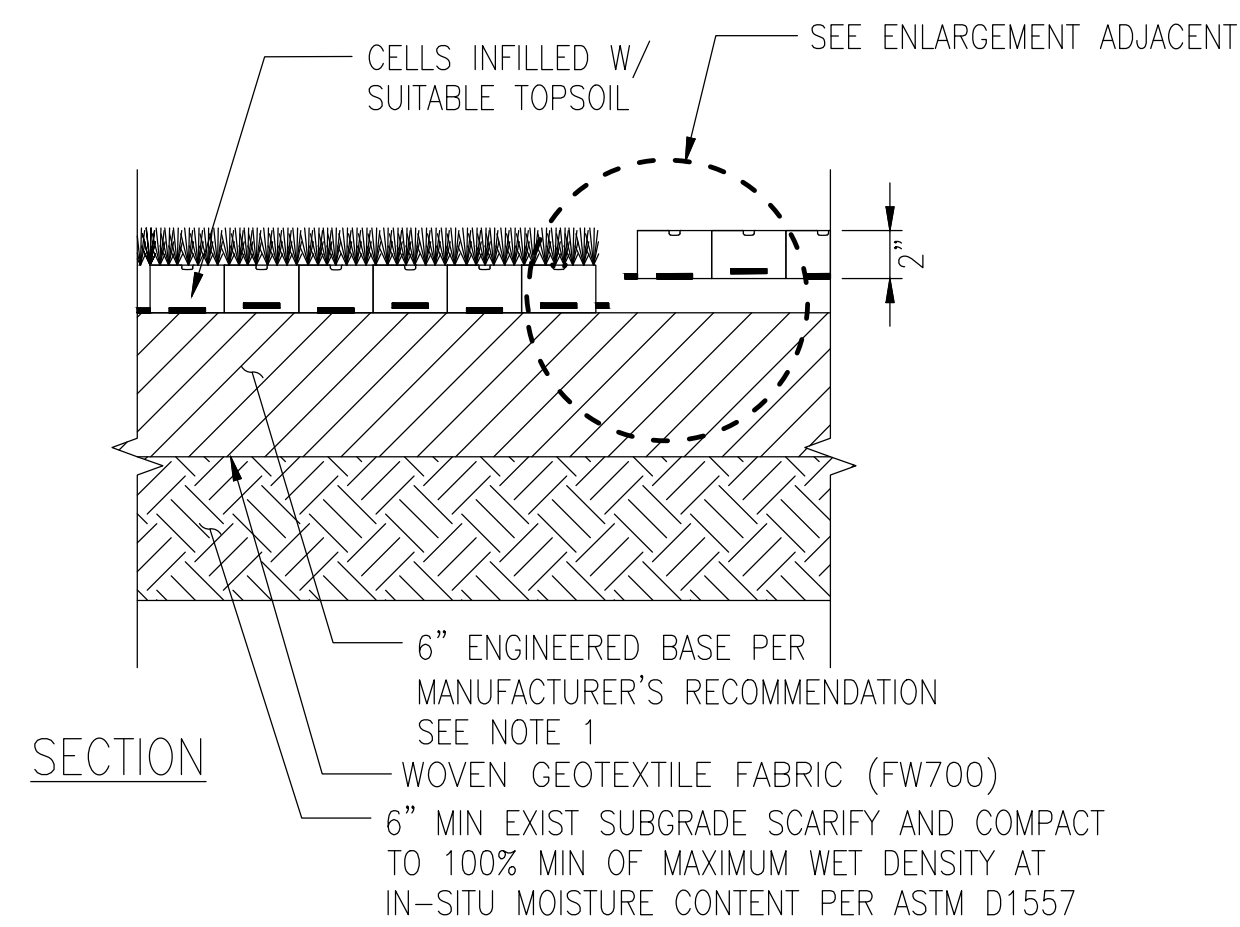
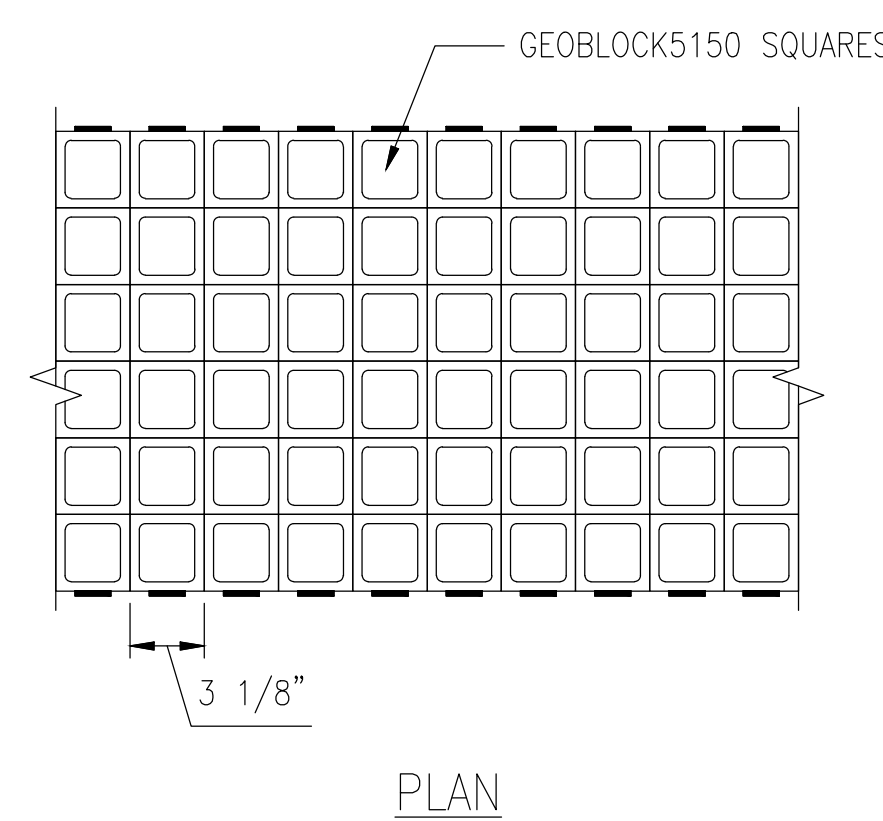
REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
STATE OF HAWAII DEPARTMENT OF LAND AND NATURAL RESOURCES ENGINEERING DIVISION					
KAHANAIKI ACCESS ROAD IMPROVEMENTS					
KAILUA, OAHU, HAWAII					
TYPICAL CROSS SECTION					
DESIGNED: HP			SUBMITTED:		
DRAWN: JA/TN			DATE: APRIL 30, 2026		
CHECKED: RS			SCALE:		
APPROVED:	Dina Lau E-signed 2026-05-08 09:51PM HST dina.lau@hawaii.gov State of Hawaii		DRAWING NO.		C-1.13
CHIEF ENGINEER	Civil Engineer		SHEET NO. 14 OF 15 SHEETS		



NOTES:

1. PROPOSED CONSTRUCTION SHALL BE EQUAL OR BETTER THAN EXISTING IN THICKNESS AND IN QUALITY.
2. PAVEMENT SLOPE SHALL MATCH EXISTING PAVEMENT SLOPE SO AS TO PROVIDE SMOOTH RIDING CONNECTION.

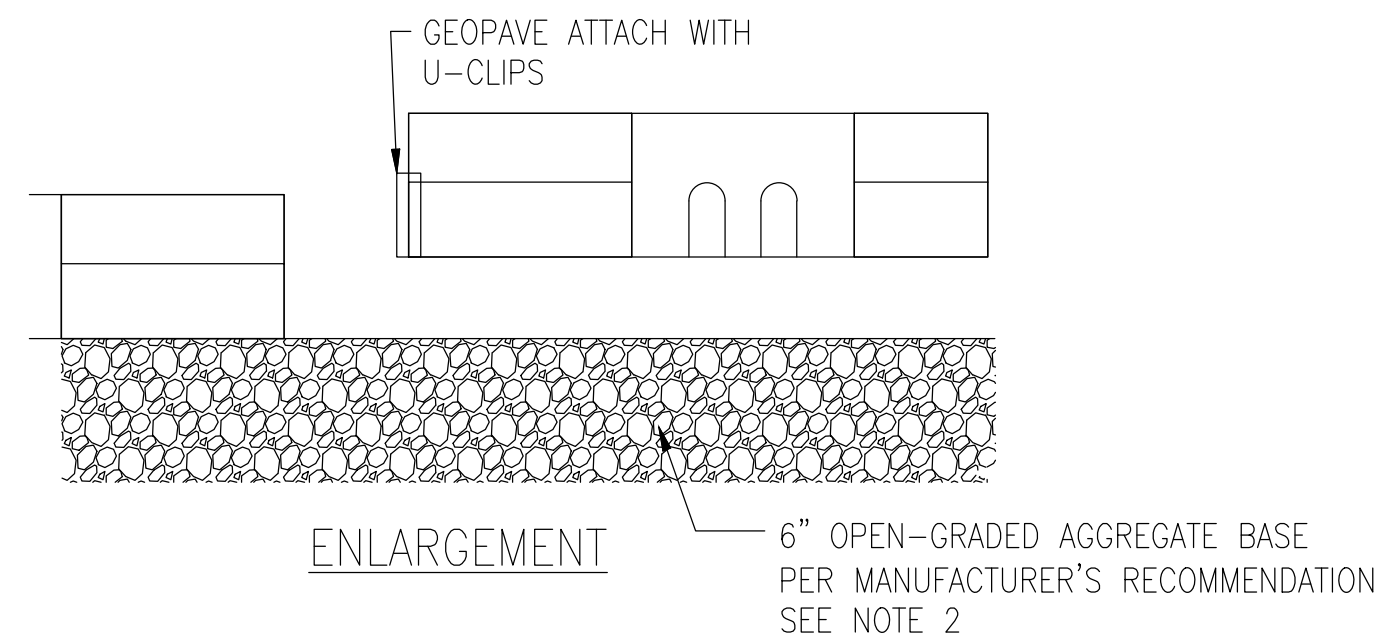
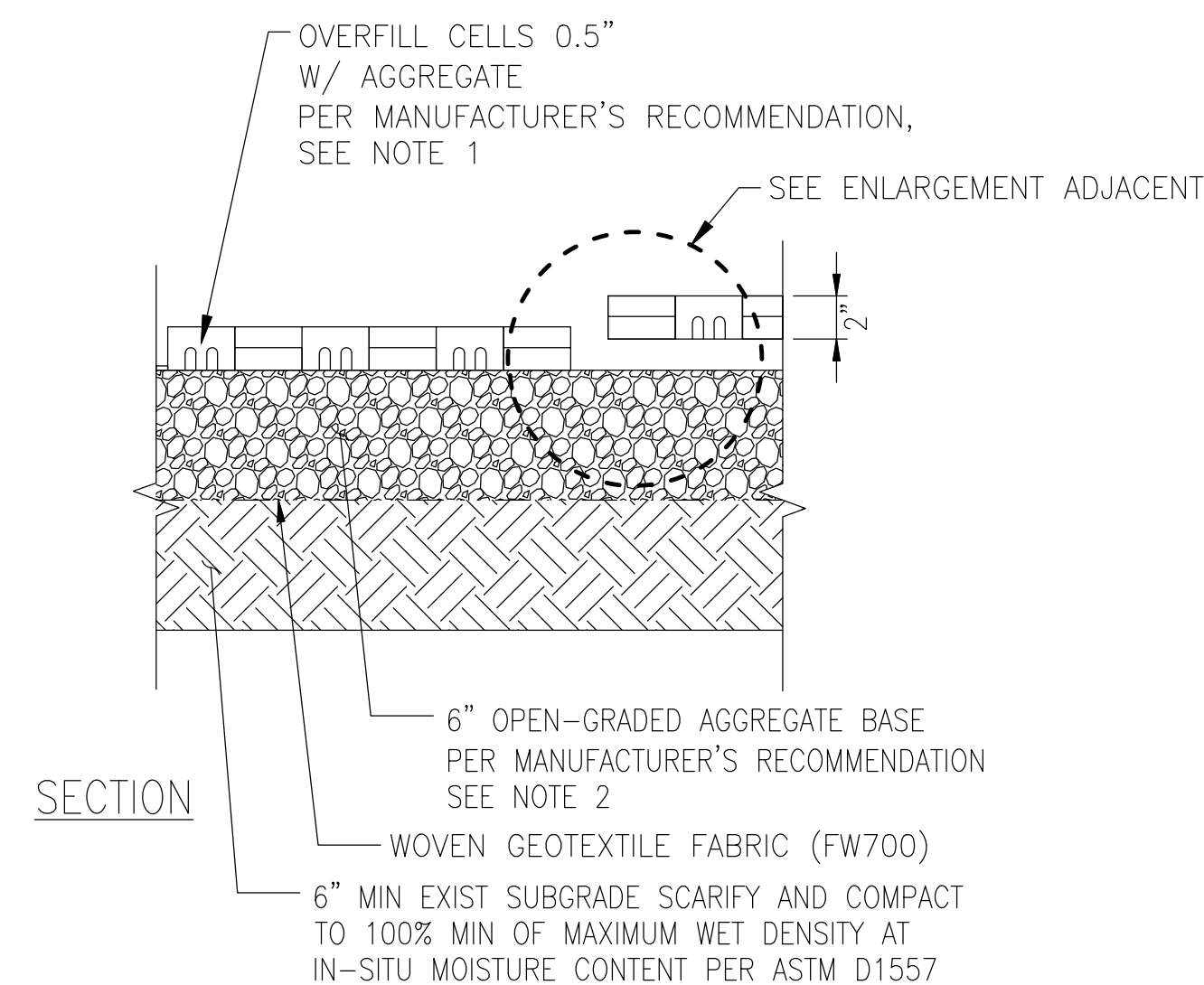
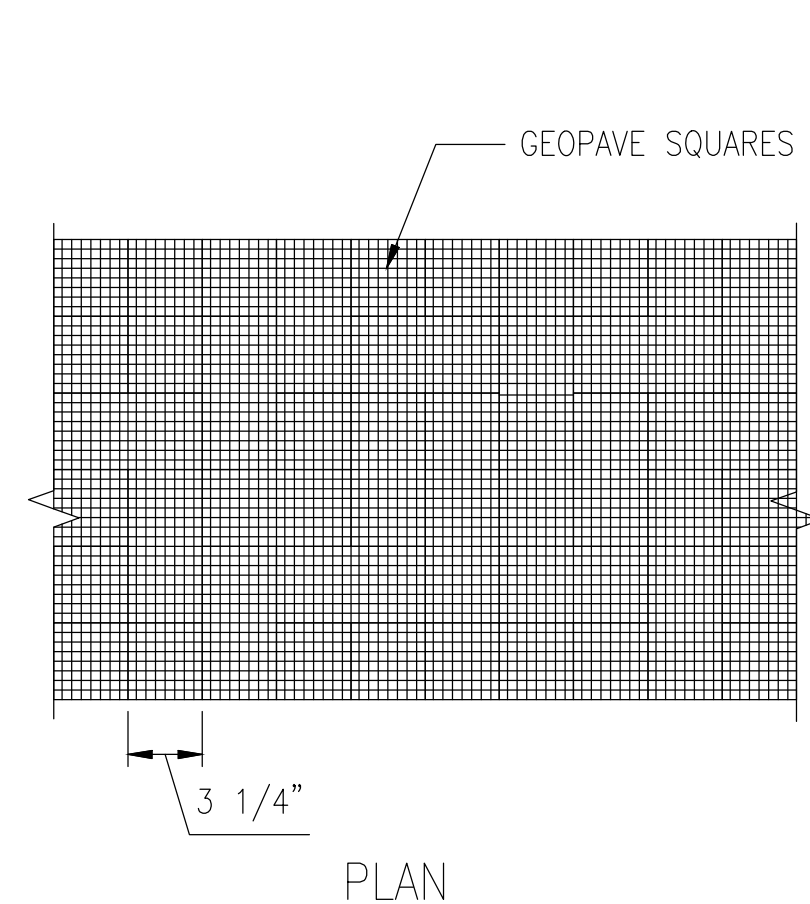
1 AC PAVEMENT CONNECTION DETAIL
C-1.14 NOT TO SCALE



NOTES:

1. MANUFACTURER'S RECOMMENDATION FOR ENGINEERED BASE SHALL BE A HOMOGENOUS MIXTURE CONSISTING OF CRUSHED ROCK HAVING AN AASHTO #5 OR SIMILAR DESIGNATION BLENDED WITH PULVERIZED TOPSOIL AND A VOID COMPONENT GENERALLY CONTAINING AIR AND/OR WATER.
 - A. THE AGGREGATE PORTION SHALL HAVE A PARTICLE RANGE FROM 0.375 IN. TO 1.0 IN. WITH A D₅₀ OF 0.5 IN.
 - B. THE PERCENTAGE VOID-SPACE OF THE AGGREGATE PORTION WHEN COMPACTED SHALL BE AT LEAST 30%.
 - C. THE PULVERIZED TOP SOIL PORTION SHALL EQUAL 25%± OF THE TOTAL VOLUME AND BE ADDED AND BLENDED TO PRODUCE A HOMOGENOUS MIXTURE PRIOR TO PLACEMENT OR WASHED INTO THE IN-PLACE COMPACTED AGGREGATE.
 - D. MIXTURE SHALL BE COMPACTED TO 95% STANDARD PROCTOR DENSITY.
2. HERRINGBONE PATTERN SHALL BE UTILIZED AS RECOMMENDED PER MANUFACTURER FOR VEHICULAR TRAFFIC.
3. ANCHORAGE SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATION.

2 POROUS PAVEMENT DETAIL (GEOBLOCK5150 OR APPROVED EQUAL)
C-1.14 NOT TO SCALE



NOTES:

1. MANUFACTURER'S RECOMMENDATION FOR INFILL IS A WELL-GRADED 0.375 IN. TO 0.5 IN. CRUSHED ANGULAR STONE WITH A FINE CONTENT LESS THAN 5 PERCENT.
2. MANUFACTURER'S RECOMMENDATION FOR AGGREGATE BASE IS AN OPEN GRADED CRUSHED AGGREGATE WITH A PARTICLE RANGE FROM 0.375 IN. TO 1.0 IN. WITH A FINE CONTENT LESS THAN 5 PERCENT.
3. HERRINGBONE PATTERN SHALL BE UTILIZED AS RECOMMENDED PER MANUFACTURER FOR VEHICULAR TRAFFIC.
4. ANCHORAGE SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATION.
5. MANUFACTURER APPROVED DELINEATOR BLOCK SHALL BE INSERTED EVERY 5TH CELL ALONG THE EDGE OF THE POROUS PAVEMENT ACCESS ROAD.

3 POROUS PAVEMENT DETAIL (GEOPAVE OR APPROVED EQUAL)
C-1.14 NOT TO SCALE

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STATE OF HAWAII DEPARTMENT OF LAND AND NATURAL RESOURCES ENGINEERING DIVISION					
KAHANA'IKI ACCESS ROAD IMPROVEMENTS					
KAILUA, OAHU, HAWAII					
SITE DETAILS - 1					
DESIGNED: HP	SUBMITTED: <i>ll</i>				
DRAWN: IA/TN	DATE: APRIL 30, 2026				
CHECKED: RS	SCALE:				
APPROVED: <i>Dina Lau</i>	Dina Lau E-signed 2026-05-08 09:51PM HST dina.u.lau@hawaii.gov State of Hawaii		DRAWING NO.		
CHIEF ENGINEER	4/30/28 Expiration Date of the License		C-1.14		